

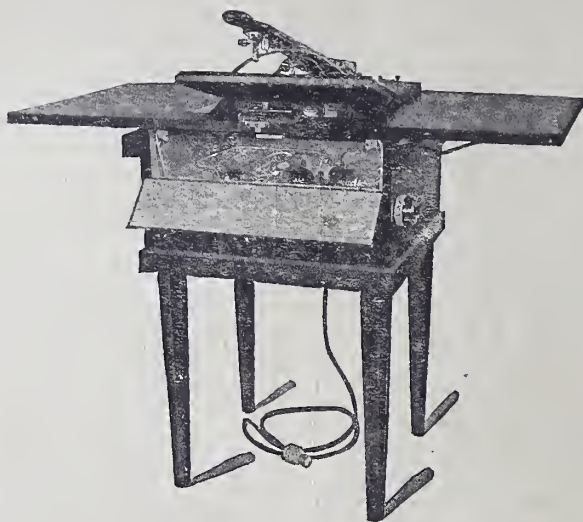
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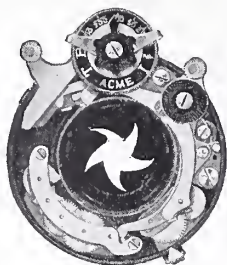
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THOMAS COKE WATKINS, Editor

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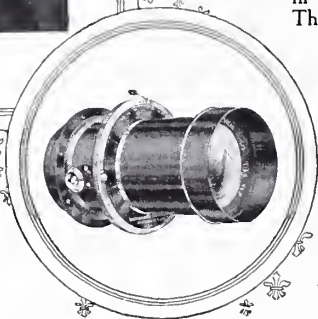
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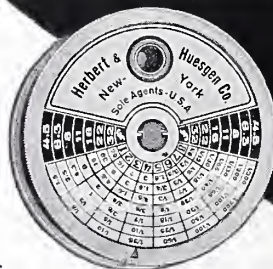
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*—From Introduction by Mr. Phillips.*

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# *The* PHOTOGRAPHIC · JOURNAL · · of AMERICA ·

VOLUME LVII

JULY, 1920

NUMBER 7



## PHOTOGRAPHY AS A MEANS OF ARTISTIC EXPRESSION<sup>1</sup>

THE question as to whether photography is entitled to be considered one of the fine arts is, to my mind, a foolish one; but if we were asked whether photography might be utilized as a medium of artistic expression I would most unhesitatingly reply in the affirmative. It might be discussed whether sculpture or painting or architecture offered the widest scope for the expression of abstract beauty, but it would be admitted by all that each of these arts is peculiarly adapted for the expression of some particular esthetic quality. Following this line of argument, I hope to be able to prove that photography is capable of expressing certain esthetic emotions very completely. That its sphere is strictly limited I am quite prepared to admit, but I consider that it is still too young an art to have its scope determined. It has not yet had an opportunity of showing what it may accomplish, largely because it has

been practised by the wrong class of persons. In its early days it was taken up as a hobby by those of a scientific turn of mind, who found in the process a pleasant outlet for the exercise of their chemical and physical knowledge, with the added charm that, as a result of their operations, they obtained pictures. It is not surprising that the accredited artists looked askance at these performances, and without very much consideration concluded that the process, being mechanical, was only capable of producing mechanical results. They reasoned that only by the medium of the human hand could the divine element of imagination be introduced into a picture; but, as a side light on the probable correctness of their conclusions, I may remind you that many of the same class were absolutely assured that Whistler was an impertinent charlatan. Times have changed, however, and the present generation is producing a new type of intelligence, which combines a cultured artistic sense with a capacity for chemical manipulation, with the result that

<sup>1</sup>An abridgment of a paper read before the Edinburgh Photographic Society, by Mr. J. Craig Annan, of Glasgow.

there is gradually being evolved a new art craft which is called pictorial photography. That the progress of the movement is comparatively slow is not surprising when one considers that so far the productions of the movement have not achieved any commercial status, and consequently few men of genius have been willing to apply themselves seriously to an art which promises so little in return for their efforts. I make no complaint on this score. One cannot expect the patron to anticipate the performance. The difficulties in the path of the would-be patron are obvious. By photography it is so easy to make a picture distinctly resembling a fine thing, and so comparatively easy to produce duplicate copies, that collectors are to be excused if they are chary in venturing into this new sphere of work. At the same time, I am convinced that we will never know the possibilities of pictorial photography until the reward of success is sufficient to attract the highest artistic talent into the arena of effort.

But even from the first there have not been wanting prophets who had the clearness of vision to see the possibilities of the new methods and the capacity to prove with considerable fulness the faith that was in them. The greatest of these, I am proud to say, was David Octavius Hill, R. S. A., who spent three of the best years of his life in making a noble series of photographic portraits in a studio on the Calton Hill, Edinburgh. During the years 1843-4-5 he was so much engrossed in his photographic work that he scarcely put brush to canvas, but at the end of that period financial considerations compelled his return to his work as a painter. It is an interesting commentary on the comparative appreciation of his two methods of artistic expression that, whereas he is rarely remembered even by the members of the Academy of which he was for many years the honored secretary, there is no civilized country where his name is not revered by all students of pictorial photography as the first great executant of the craft.

His compositions are of the noble order which only a great mind can conceive, and what is of special interest to us at

present is, that he found his medium capable of expressing his noble thoughts. Hill had not at his command the beautiful printing methods which are now available, and I ask you to consider the possibilities which are suggested in the pictures, more than the actual results which have so far been achieved. To my mind the art or craft is still in its infancy. Hill's work proves that it had a healthy birth. It has had but indifferent foster-mothers; but I think it is now emerging into a vigorous youth, especially among a small group of our transatlantic brethren, and I sincerely believe it has before it a virile manhood. I believe the influence of Whistler to have been the most potent cause of its recent development, and in this connection I have pleasure in showing you the only writing of the master on the subject—I took the liberty of presenting him with a few reproductions of Hill's portraits and you can read his reply:

110 RUE DU BAC, PARIS.

DEAR SIR:

How very kind and nice of you to send me those most curiously attractive photographs—I should more simply say pictures, for they certainly are pictures, and very fine ones, too.

Pray accept my best thanks, for your present, and for the flattering thought that prompted it.

Very faithfully yours,

J. M'NEIL WHISTLER.

I have referred to the imagination as being the chief factor in the equipment of the pictorial photographer, and you may ask what part imagination can play in a mechanical process. It appears to me that there are two kinds of esthetic imagination: One which evolves a scheme of beauty from the inner consciousness and expresses itself in color schemes and compositions based upon, although sometimes distantly, the appearance of natural objects; and one which enables its possessor to observe the perfect schemes which nature occasionally provides, and which are capable of realization by means of apparatus and processes. The point I wish to emphasize is, *that to produce the best possible work of art in photography it is essen-*

*tial that the worker should have artistic abilities of the highest order, or in other words a photographic picture cannot be of a higher order than the intelligence of the photographer.*

The art of etching had a Rembrandt to exploit it in its early days, and I am convinced that the position of photography as a vehicle of artistic expression cannot be determined until it has been seriously practised by a master. Meantime, if I cannot show you the work of an absolute master, I hope to be able to show you in the series of slides which I have prepared, that something has already been accomplished.

The first is a self-portrait by Eduard Steichen, and the slide is a reproduction of what is termed a gum print. The peculiar quality of a gum print is, that at one stage of the process of production the print is in a soft state, somewhat analogous to a recently painted oil picture, and while it is in this state liberties may be taken with it by rubbing off portions of the semi-fluid picture. This process has been a very popular one with many

workers during the last few years, owing to the facility which it affords to alter unsatisfactory details, but it is a method which is only safe in exceptionally competent hands, and I regret to say that many of its present-day votaries cannot be so characterized.

Interesting as these gum prints may be, I am rather inclined to believe that the most perfect work has been and will be done in pure photography, for the reason that by pure photography one may reproduce objects, with all their contours, tones, and modelling, with absolute fidelity. It follows that, if the photographer has the power to see the exquisitely beautiful in nature and is master of the technique of his craft, he has the power to reproduce on surfaces those qualities of form and tone in a more perfect way than is possible by any other method; but as soon as the hand is permitted to interfere in any way with the photograph, the automatic perfection is destroyed and the resulting hybrid picture must rely upon other qualities to justify its existence.

## ARCHITECTURAL PHOTOGRAPHY

By ARTHUR G. WILLIS

THE above title, to give it its full meaning, would include the photography of buildings of all sorts, but it is the intention of the writer to deal chiefly with work in churches, etc. where the chief aim of the photographer should be to show the beauties of the building and its architectural features to the best advantage. This is a class of work very much neglected: some of the examples of it are really awful. There is a great, and growing, demand for really first-class photographs of this kind, not only in the postcard trade, but in large prints for tourists and architectural enthusiasts, and for work to be reproduced in architectural treatises and guide books. Publishers want good work badly, but in many cases they have to put up with inferior stuff, as the reproductions show.

One reason why this class of work is so much neglected is the general, but mistaken, idea that it does not pay. As a matter of fact the class of people chiefly interested in this sort of thing are well-to-do, and do not mind paying a good price, providing that they can get what they want.

If there is a well-known church or other fine building in or near your town, make it your business to get the best possible results from it. Make it your own property, photographically speaking. Get your name known wherever the building is known, so that everyone wanting pictures of it naturally comes to you. Get your work into the guide books; it not only pays in itself, but it is a very fine advertisement. Do not stick to postcards; go in for prints for reproduction. Make a series of 12 x 10

views. Make lantern-slides in monochrome and color. Charge good prices and deliver good work.

One reason why so much bad work is turned out is this: that there is a general idea that the photography of buildings is easy. Why this is so I do not know, but anyhow, it is a mistaken idea. To do this work well requires at least as much technical skill as good portraiture, and you cannot fall back on the retoucher to patch up your mistakes.

To become successful in architectural photography one should have at least an elementary knowledge of the principles and chief styles of architecture. There is no need for a long course of study; all that is required can be learned from such a book as Parker's "Introduction to Gothic Architecture." Not only will the knowledge you gain be of great use in selecting the best views for your purpose, but it will enable you to talk intelligently with your customers. In addition the study will be found not only a profitable one, but a remarkably interesting one, especially to those with an artistic temperament, such as most photographers have.

To get to practical points. It is unlikely that, at first, at any rate, you will wish to buy special apparatus for the work, but it will be as well to point out the most useful features, in order that when new apparatus is being purchased for general work the requirements for architectural work may not be forgotten. Excellent work may be done with an ordinary field outfit, but it is undeniable that in this, as in every other field of photography, special apparatus will enable work to be done more quickly and with a higher percentage of good results. Hence when much work of a special character is to be done it is a sound investment to get the most suitable gear possible to do it with.

The camera should be of the square-bellows type. Tapering bellows are a nuisance, and the extra weight does not matter, as there is not usually a lot of carrying to be done. The camera should have all the usual movements, to a somewhat unusual degree. In the half-plate size, for instance, it should have extension from 3 to 30 inches; rise

of front, of 4 inches; fall, of  $1\frac{1}{2}$  inches; and sliding movements of 2 inches each way. Swing front and back should be fitted, but do not use them if you can avoid it. A plumb line should be fitted to each side of the camera back, but it is very necessary to fit them properly, otherwise they are worse than useless. A spirit level may be fitted to the camera, or it may be carried loose; whichever way you use it have a "sizeable" one; the little circular levels often fitted are no use whatever. The best in use are small one-tube builder's levels.

When a square lens-panel is fitted it is an advantage to fit the lens rather below the center; by turning the panel one can then obtain a slight extra side movement of the lens, in either direction, or an additional rise. Perhaps the most important point of all in actual practice is to see that the dark slide can be inserted from either side. This is not always possible, but it is most essential when working close up to a side wall, as one often has to do.

The shutter should be of a type easy to close and re-open during an exposure, so that the ordinary roller-blind type is inconvenient. This is often necessary owing to people coming into the field of view during the exposure. The shutter must work without jar. The best I have ever used is one of the flap type, as often fitted to studio cameras.

The release fitted should be a wire one, and it should be of sufficient length to be used when the camera is perched on three chairs, or is in a similar elevated position.

The tripod should be very steady when set up, and have a good range of heights; it should also be easily adjustable for use on uneven ground, on stone steps for example. Rubber-shod feet are good to work with, except when the legs have to be spread wide out, when they will be liable to slip. Here I must mention the most useful accessory I have ever used for interior work. It consists of a ring to which are attached three lengths of chain, with wide links. The ring is placed under the camera, and each tripod foot is fitted into a link in the different chains. This absolutely obviates slipping, however wide the leg

may be spread. It is much better, in use, than the wooden bases sold for the same purpose, as it is just as useful on uneven ground or on steps as it is on the level; also, as each link provides a "stop," it is easy to adjust the legs to the exact position desired.

A tilting top is useful, especially where much detail work has to be done; it is quite a simple matter to make one oneself, but the commercial types are quite satisfactory, and not very costly. A ladder stand is a very useful article to have; not only does it simplify the getting of details high up in a building, but it is frequently invaluable for getting views of the nave, etc., without the great exaggeration of foreground chairs or pews which is so common a fault with ordinary views.

In passing, it is always sound policy to get on good terms with the vergers. It costs very little, and they can be of great use in many ways. The moving of obtrusive objects, such as chairs and benches, is one of the most obvious ones, and attendants can frequently be persuaded to let you into galleries, etc., where the public are not allowed, but from which excellent views are often obtainable.

Now with regard to lenses. It seems quite the general impression that wide-angle lenses are the ones to use for most interiors—a most mistaken idea. They should only be used when there is no alternative possible. I should put the most useful focal length for interiors at a little larger than the longer side of the plate, say 7 inches for half-plate. This will take in quite a wide enough angle in most cases and the perspective, even at the margins, will be quite natural.

When it is possible, a lens of longer focus, say 9 inches, is preferable. The longer the focus, in reason, the better the resultant picture. Whatever lens is used, it should cover a much larger plate than the one on which it is being used, otherwise the rising front will be of no use, and the camera will have to be pointed upward and the back swung into a vertical position. A most unsatisfactory business, as it necessitates a very small stop, and consequently a long exposure.

For detail work a telephoto lens is excellent, not one of the fixed-focus type. But the business of focussing details in a dark interior with a telephoto lens is rather trying. The old dodge of a lighted candle against the subject is often the best way to do it.

It is usually a waste of money to purchase very rapid lenses for interiors. They have almost always to be stopped down to  $f/11$  in practice. But it is undeniable that a large-aperture lens is much easier to work with in one way; it is easy to arrange the picture, and focus roughly with full aperture, and then to shut down to your working stop to finish focussing. The habit of doing the final focussing with a larger stop than is to be used for the exposure is a bad one, as altering the stop will, with many lenses, alter the point of sharpest focus.

The question of plates for interiors is a very debatable one. Some workers use the very fastest they can get, and score in the reduction of exposures; but a fast plate cannot have the same latitude of exposure as a slow one. The practical result of this is that the contrasts in an interior view are often well within the range of a slow plate, but quite beyond one of the faster brands. When using a fast plate the high-lights are hopelessly overexposed before the shadow detail has had a chance of impressing itself. With a slow plate, both high-light and shadow may be rendered on one plate by a careful exposure and development. Panchromatic plates are an advantage in many cases, and were I tied down to one plate only I should choose a slow brand of this type. Whatever plates are used, they must be backed. Halation is usually coupled with windows in the experience of most of us, but it will be found in every well-lit interior negative; if no windows are shown it will not show much, but it will degrade the delicate gradations in the high-lights. The difference is often very marked indeed, and it is a good idea to make a practical test of this. The result will be more convincing than pages of writing can be.

Naturally, the printing process used will depend on circumstances, but to my mind carbon is *the* process for first-class

prints. I know of no other process that will give the same rendering of stonework as warm black carbon on a slightly tinted semi-rough base. In fact, whatever effect is wanted, it can be obtained by carbon, without having to resort to toning, and with a guarantee of absolute permanence. But I suppose bromide will be the most generally used process, and it is a very excellent one indeed. Whatever paper is used, it must be soft enough in contrast to give full detail in both high-lights and shadows. More interior views are spoiled from excessive contrast than from every other cause combined.

Now, as to sizes. For stock views I should recommend two sizes to be run—12 x 10 and 8 x 6, and for detail work perhaps 8 x 6 and 6 x 4. I am a great believer in contact printing for all interior work. Not only is there a lot of very small detail likely to be lost in enlarging, but it is very much easier to make a good contact print than a good enlargement from a harsh, uneven negative, such as is common in this class of work. If enlargement has to be resorted to, it is far better to make an enlarged negative and print from that than to enlarge direct on to the paper.

There are three classes of prints you will have to make if you are going to "do" your building thoroughly. A.—General views, usually with fine definition, and on smooth paper, but not therefore necessarily unartistic; B.—Pictorial effects, where the general effect is more important than detail; and C.—Detail work, such as corbels, capitals, moldings, etc. In these the detail is usually the thing to go for, but they must be, so far as is possible, pictures at the same time.

In photographing interiors it is often assumed that as light always comes through the same windows the lighting effect is more or less the same at all hours of the day. Nothing could be farther from the truth. The lighting varies quite as much in interiors as it does outside, and no trouble should be spared to find out just when the view required is lit to the greatest advantage. Frequently you will find that selective lighting is the one way of making objects

stand out boldly instead of being lost in the background. The different effects to be observed during a day in the lighting of one single view are numberless. As the light goes round, gets higher or lower, as the case may be, you will find some new point becomes the chief one in the composition, and perhaps the point which was at first the principal object falls back into insignificance, being almost lost in its background. As a general rule, it may be stated that in interior work the near objects should be darker in tone than those more distant. This rule is, of course, not suited for every case, but it will give some idea of the effect to look for perhaps.

One of the greatest difficulties confronting the architectural worker is to render the texture of the subject. The difference between, let us say, sandstone and marble, or between polished and unpolished stone of the same type, is great; it must be shown plainly if the photograph is to be a success, but it is a most difficult thing to do. It is hard to say how it is to be done, or to give rules for getting the effect; but it depends partly on lighting, and more than anything else on correct exposure and development. These two things are the key to success in all kinds of photography, and in no kind of work are they more essential than in this. Good definition is a help toward rendering the texture, and yet, curiously enough, some of the best prints I have ever seen in this way were taken with a soft-focus lens and were most decidedly "fuzzy." The rendering of the texture was nevertheless perfect.

Sunshine is, of course, a help in exterior work, as it gives an almost stereoscopic effect to the print if it is properly used, but in interior work it is a nuisance. There is one exception to this. When an artistic effect is wanted a patch of sunshine on a pillar or on the floor is often the means of turning a dull and lifeless print into one full of sparkle.

The best way to deal with windows is to avoid them, but when this is not possible wait until the light is as far in front of them as possible. Small windows can sometimes be covered up from the outside during the greater part of the ex-

posure, and just given a few seconds to impress themselves on the plate. Some very fine results may be obtained in this way, but it takes care to manage successfully. The thing most likely to cause trouble is the double-lighting effect on the edges of the window and on any objects close to it.

Everyone will have his own ideas as to pictorial effects, but whatever result is sought after the lighting will be your greatest help. Soft-focus lenses are very well suited for this work. Do not try and get "artistic" effects by underexposure. Blank spaces are not and cannot be artistic. Try and get the spirit of the place into your work.

In all architectural work it is very necessary to consider the effect you wish to create. In exteriors, for example, if you want to show the dignity of a building, it is no good going a long way off and using a long-focus lens. If you do, you will most likely dwarf your subject with the buildings and trees surrounding it. Get up close, and use a short-focus lens. Get so close that you have to look up to see your subject. Then you will get a picture with an impression of dignity in it. On the other hand, if you want to show a building "nestling" among the trees, don't get close up, or you won't get trees enough. Get a long way back and use a long-focus or telephoto lens. It is in these little things that the whole art of photography is shown.

Detail work is not easy, but it is very fascinating to anyone keen on his work. High-relief work, such as carved capitals, should be taken in a soft light, but low-relief, such as some types of moldings,

will need a strong side-light to make them "stand out." In detail work it is often possible to control the lighting, to a very large extent, by the use of small screens and reflectors. It is sometimes possible to use artificial light in this work, half-watt lamps if electricity is fitted, or even flash powder. In cases where details such as capitals or bases of pillars are required isolated from their surroundings a portable background should be used. Gray is the most generally useful color, but black is sometimes very effective. The use of a background is to be very much preferred to blocking out on the negative.

To come to technical details, the old adage of "Expose for the shadows and develop for the high-lights" is particularly true of interior work. You must have full detail everywhere. Don't try and patch up faulty exposures; re-take them. It pays better in the long run.

Use a developer diluted to one-quarter its usual strength; it is then much easier to avoid "soot and whitewash" effects.

In detail work it is sometimes permissible to tilt the camera up or down without correcting it by swinging the back. This is the one and only exception to the rule that the plate must be vertical during exposure. Be careful of the bellows cutting off any part of the image; it is easy to overlook this when the image is very dark. The focussing screen should be the finest that can be made.

To sum up: Do first-class work, get first-class prices, and you will get a first-class advertisement for nothing.—*B. J.*

# THE PSYCHOLOGY OF PHOTOGRAPHIC PORTRAITURE

By A. LOCKETT

OTHER things being equal, that photographer will be most sought after who succeeds in catching not merely, nor necessarily, a "pleasant" expression, but one immediately recognized by friends, acquaintances, and the world at large as distinctive of, and peculiar to, the person represented.

Hence psychology, a science of the mind and mental processes, has very much to do with portraiture; for expression is nothing but the outward sign of an inward idea or sensation, whether arising naturally and unprompted, summoned up artificially by an effort of facial control, or cleverly suggested from outside. Psychology analyses thoughts, impressions and feelings, ascertains how this one is caused, and how another may be avoided.

In an ordinary portrait we do not want to show active or energetic passion, which pertains properly to dramatic photography. Quite apart from that, however, it is surprising how many alterations are possible in what may be called the quiescent face. So slight a change as the raising of an eyebrow, a movement at the corners of the mouth, an inflation of the nostril, a tilt or drooping of the head, a flash or twinkle of the eye, an opened or compressed lip, may altogether transform a tame, commonplace portrait into one instinct with the very personality of the sitter.

There are three ways of recording expression. Firstly, by a lucky accident or "fluke," which need not be seriously considered, though it has created a few short-lived reputations; secondly, by watching attentively till the desired effect occurs, and instantly giving the exposure; or, thirdly, by making the sitter unconsciously assume the wished-for look, through adroitly-managed yet unfelt influence and suggestion. The second method is good and is probably that most in use, but it is uncertain. The third alone can really claim to be psychological. It is the most difficult

to acquire, but well repays those who adopt it, and in the end simplifies their work. It is not, of course, maintained that such a system can, or ought, altogether to oust ordinary studio methods, but rather that it should be allied with these, as a valuable guide and an added power.

While some are temperamentally unable to adopt psychological means, many workers, on the other hand, already proceed along lines which may be so described, often unknown to themselves. The subject can hardly be reduced to fixed rules, but there are, at least, a few leading principles which may be of assistance, even where circumstances do not permit of their being too literally followed.

To begin with, the operator should learn to recognize the many shades of facial expression, and what they signify. This is merely a matter of close observation, experience, and common-sense. It is best studied from living subjects, not only sitters, but almost everybody one meets or sees. This should be supplemented by the hints to be gathered from paintings, engravings, and photographs. An excellent plan is to collect by degrees a classified album of different expressions. The worker should question himself exhaustively with respect to each portrait: "Of what nature is this expression? What does it probably signify? Is it bland, cynical, benevolent, gracious, supercilious, dignified, thoughtful, amused, reminiscent, perplexed, interested, pitying, demure, arch, mischievous, annoyed, strained, nervous, embarrassed, vacuous, dreamy, bored, inquisitive, impatient, reproachful, contemplative, placid, sorrowful?—or what? How might it have been caused? Is it pleasing? If so, why? Is it suitable to this particular person? If not, why not?"

Having obtained some understanding of the many feelings or characteristics capable of being indexed in the face, and the ability of precisely identifying them,



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the next consideration is how to apply the knowledge in practical work.

The operator should try, if possible, to get some clue, however trifling, to the occupations or life-story of his sitters before they face the camera. In a moderate-size town almost every notability will be more or less discussed, while local gossip will supply useful details of less important personages. Such a work as "Who's Who" is very serviceable, and even a copy of the directory is not to be despised. The receptionist, if of the right kind, might be instructed to have her eyes and ears open for any hints or indications which may occur while booking the sitting. A well-known American photographer keeps a private card-index of sitters, or people who may possibly become such, in which are noted, directly they are read of, heard, or otherwise learned, the position, attainments, amusements, little likes and dislikes, etc., of each.

When to be taken at once, without an appointment, it is helpful if the operator can get a glimpse of the sitter before the latter passes to the studio. One of our best modern portraitists has a small draped window placed in the reception room wall and accessible from the studio, by means of which he can form an advance notion of the sitter's individuality without himself being seen.

The prompting or influencing of expression may be considered under two heads, namely, the prior preparation of the studio, and any means adopted during the actual sitting. The psychological importance of environment is considerable; when it is more fully grasped, photography will have made a giant stride forward. Most people are affected, more or less, by the prevailing tone or character of any room they enter, especially if for the first time. Consider the studio as a room. Let the walls be panelled or distempered, and the floor stained or carpeted, in an unobtrusive medium neutral tint, neither lively nor dismal, which will fit in with any scheme of furnishing. Then, in a couple of minutes, by a few rapid changes here and there, the whole atmosphere, so to speak, may be totally altered. By drawing out sombre hangings, opening a dark folding

screen, installing one or two accessories of fumed oak, hanging up, say, a couple of dim old oil paintings, weapons, pieces of armor, etc., the studio may be given an aspect calculated to induce a subdued, contemplative expression, should such be thought desirable. We are not referring to the setting used in the photograph, though this also may be in harmony if expedient, but to that portion of the studio which the sitter faces, and by which he or she is unconsciously impressed.

When, on the other hand, the sitter is noticed already to look undesirably solemn, which is more usual, the cue must be a sprightly cheerfulness. Bright hangings should be drawn out, a gay folding screen installed, several etchings or water-colors with wide white margins arranged on the walls, a bowl of vivid flowers (artificial ones will do) conspicuously displayed, light-colored or white furniture brought out, and so on. It is quite simple to have the hangings arranged one behind the other, so that quick changing is easy, also the folding screen might have one side light and the other dark. Even the pictures and frames could be made reversible with a little contrivance, while a partitioned-off space will serve as a repository for changes of furniture.

The immense psychological value of surroundings suggesting a glorified playroom or nursery, when photographing children, begins to be understood, and is systematically carried out by the best workers.

A single article thrown with apparent carelessness on a side table or chair, where it will catch the eye, may prove powerfully suggestive, and it is in such subtle touches that one's prior knowledge of the sitter may be turned to account. An amusing example occurs to mind of a West-Country photographer, absolutely hard-headed and impatient of what he would call "theoretical sentimentalism," and who cannot even now be brought to see how his own methods often owe their success to the very principles he despises. Gratified one morning by a visit from a distinguished general, he placed an unfolded map of the Belgian coast on a small table in the studio, thinking it

might please his sitter and look creditably patriotic. Returning with the re-filled dark-slides, he found the general seated motionless, intently pouring over the chart, and altogether oblivious of his entrance. The lighting fortunately suited, the wall itself formed a satisfactory background; so, needless to say, our camerist gratefully accepted the unlooked-for opportunity, quietly slipped in the slide, and made a noiseless exposure of one second's duration, with a magnificently life-like portrait as result. It will be guessed that he did not omit to drop something, to arrange his roused sitter in the self-same pose, and to go elaborately through the time-honored artifice of "taking a dummy." The ingenious worker should be able to think of many other objects which may judiciously be used, in different cases, to induce a similar forgetfulness or to awake some vital interest.

Next to the eyes, the ear most powerfully affects the mind. A simple noise may recall the master-energy and provoke tense alertness. A successful photographer of rural squires confesses to various little stratagems of this kind. He has, for instance, banished the temporary listlessness of an obvious huntsman by smartly tapping two blocks of hard wood, in rapid succession, on a slab of stone, out of sight behind the camera, when ready for exposing. This trick effect, borrowed from the cinema, seldom fails to bring instant recollection of horses galloping along a frosty road, causing the sitter's shoulders to square, his jaw to set, and a determined light to come into his eyes. In some special cases it might be decidedly worth while to utilize the charm of unseen music, martial, lively, or dreamy, as seems most fit.

The sense of smell is well known as having a strong psychological influence. Sweet-scented flowers, or a sprinkling of choice perfume, soothe feminine susceptibilities. The odor of good tobacco subtly pleases a smoker, but must be got rid of afterward, or it may annoy others. During summer and autumn a pail full of moistened seaweed, brought back from one's holiday and kept concealed close to the sitter, will evoke agreeable

recollections in others of joyous afternoons on wave-swept beach or breezy pier. One may calm, also, through the sense of touch, as by spreading soft, downy cushions for the ladies, or by allowing a child to hold or stroke anything fluffy or plushy.

In everything much, of course, depends on the sensitiveness and flexibility of the sitter's face. Some people almost let you see what they are thinking of, and these, as a rule, are the most responsive to externals and to suggestive influence. Others are solid, hard, wearing a perpetual mark, and very little can be done with them.

The operator who is a good conversationalist has a considerable advantage, since it is possible to arouse interest, start a train of ideas, or, by means of association, to get pleasant memories working. But this needs great tact, and, indeed, some amount of personal magnetism. Those who do not possess these will find a retiring manner and as few words as possible the better policy.

An air of calmness and confidence is important to the operator. On no account should he seem anxious or hurried. Such an attitude is apt to infect the sitters and make them feel ill at ease. The moment of exposure should preferably not be known, though this by no means implies a recommendation of instantaneous working. In real life we do not view expression so abruptly and disconnectedly. Even the most fleeting facial change is usually compounded of several imperceptible transitions. By giving a brief time exposure, these are, as it were, averaged and blended in the photograph, which is therefore more convincingly natural. A good light and a noiseless shutter are, however, expedient, and the reflex type of studio camera has undoubtedly much merit, in permitting the subject to be kept focussed with the plate in position. In default of this, one of the various patterns of sliding attachments might be used, whereby, on pushing the focussing screen aside, the dark-slide is immediately substituted, and the plate simultaneously uncovered. It might not be out of place to insist on the necessity of keen vision in the operator,

and the desirability of wearing glasses if there is the least difficulty in watching expression.

Requests to "keep still," and instructions where to direct the eyes, should be avoided if feasible, since they always have a petrifying effect. The old-fashioned "look pleasant, please," is astonishingly successful in conjuring up either a sheepish grin, a vacant smile, or a

palpably insincere and overdone benignity. The right way is so to manage that the sitter does what is wanted spontaneously, though in reality skilfully humored, influenced and guided. Fancying that the operator is merely getting ready or experimenting, the sitter acquires a temporary self-detachment—and soon learns, with agreeable surprise, that all is over.—*B. J.*

## PUSHERS AND PESSIMISTS

**P**USHERS are usually in the thick of the business fight, producing.

Pessimists growl on the outskirts, waiting to seize upon the spoils the pushers win.

Pushers build and pessimists tear down.

Pushers blaze new trails. Pessimists travel in ruts.

Pushers are bright, cheerful, joyous

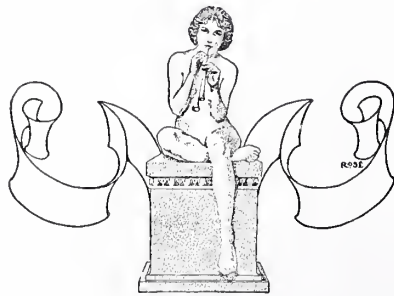
and brave. Pessimists are gloomy, doleful, grouchy and weak.

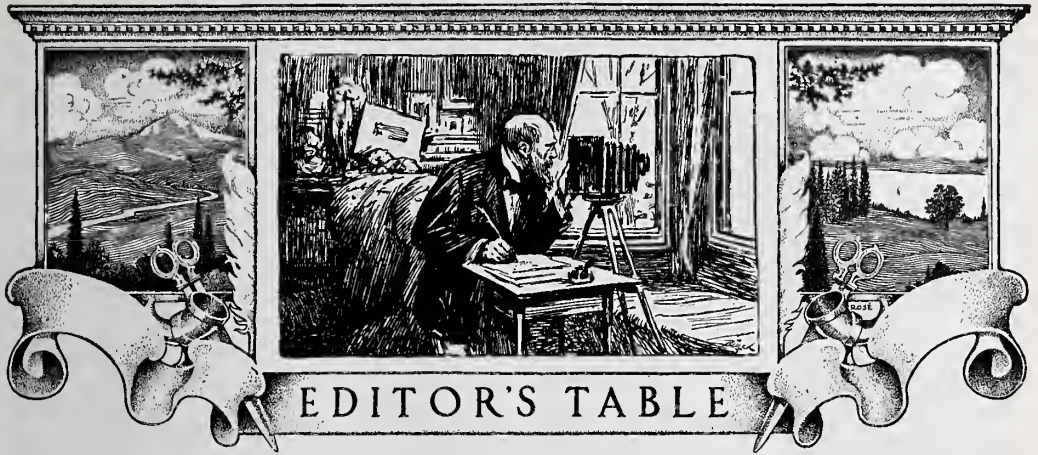
Pushers boost each other and so, boost all. Pessimists knock each other, and thus they fall.

Pushers bring prosperity. Pessimists throw blight on all prosperity.

We're going to be a Pusher.

What are you going to be—and do?—*Ohio Print.*





## HAVING A SETTLED POLICY

THE varying conditions under which a photographic studio must flourish or decay, the widely differing demands of different communities and the tremendous detail incident to the carrying on of a successful photographic enterprise render system and policy particularly important in this field of affairs.

The photographer about to open a new studio should, and must, formulate a definite plan of action before he can successfully begin his work. He must decide whether his scheme shall be worked out upon the lines of large output and low prices or upon smaller production and proportionate increase in value. Until this has been done he cannot even lay out his dark-room, printing-room, or appointments. Once the policy is adopted it should be worked out to completion without any considerable change in the plan of operations until it has had a chance to demonstrate its merit or demerit.

The man who goes into photography with a wavering purpose, waiting for events to direct him, is likely to continue in a state of uncertainty indefinitely. Concentration of thought and energy can only be effective when the business is built upon a well-defined plan. The so-called art tendency in photography should be carefully considered. The photographer should firmly settle in his

own mind at the outset what his own attitude is to be toward this ever-present question.

Is he to follow the dictates of the new school and endeavor to educate his patrons to a higher understanding and appreciation of art, or is he to cater to the present demands of his community, striving to produce work that is honest and of good value, with the idea of constantly improving it both technically and artistically? In doing this he may gradually build among his patrons a finer taste and a demand for better work in a quiet and natural manner.

The statement cannot, we think, be controverted that the desire of the ordinary person who goes to the photographic studio for a photograph is, first of all, to obtain a likeness. This likeness, particularly in the smaller communities throughout the country, can hardly be considered, even under the best treatment, a work of art.

Let the principles of art be applied to each and every pose so far as possible. The average photographer, however, cannot afford to forget that he is in the business for profit. He must give his customer that which the customer requires if he will succeed. In catering to the popular taste the photographer may, while apparently following the demands of his patrons, lead them step by step into an appreciation of more artistic work which, in its turn, will bring him better prices. This result may more

easily be obtained by apparently following rather than ostentatiously leading his public.

To successfully work out a policy of this kind the photographer must keep himself constantly in touch with all that goes on in the photographic world, thus improving the quality of his output, keep posted upon the novelties as they appear in the market, and be ever ready to arrive at a quick and accurate estimate of the commercial value of this or that new thing among his own patrons. Once it is determined that a novelty is fitted to the demands of his own trade, he should not hesitate to adopt it. He should make it known at once in no uncertain tone throughout the entire section to which he caters. There is little or no profit to be obtained by the introduction of a new method or printing medium if it is known only to a small circle of people. If such a novelty is worth being introduced, it should be widely and strongly advertised. An innovation quickly loses its novelty. Its best results are always to be reaped while it is still new.

The progressive photographer, who is known and recognized as such, soon finds himself surrounded by a circle of patrons, larger or smaller as the case may be, whose support can be made very valuable if catered to on the right lines. Many of these people like to be considered connoisseurs. They feel complimented by being asked for an expression of opinion. The photographer with a policy takes advantage of all such means as this to extend his prestige.

If the policy of a photographic studio is to meet and satisfy the demands of its patrons those demands must first be clearly understood before they can be catered to successfully. Meantime, there will be found ample opportunity for the development of any special line of more artistic work.

The settled policy, once adopted, should be made the central point around which every business transaction groups. If the policy is built upon the lines laid down in its definition, the wisdom, prudence and shrewdness of its framer must become apparent in its results when put into operation.

## THINGS TO STRIVE FOR

WE are living in an age of art feeling, and no matter how great the mechanical skill, there must be something beside it to make a lasting impression. There was a time when the photographer and his customers were satisfied with a picture which was simply a map of the human face. That day has gone by, and it is a small town, indeed, a long way from railroad communication, that will be content with this sort of work. Not only is the photographer educating himself to a higher standard, but the people that come to him are rapidly learning the value of light and shade, of tone and color qualities. They are no longer pleased with a face as white as the collar and cuffs they wear, for they realize that there is a difference in nature, and, if this difference exists in nature, then surely it ought to be in evidence in that thing which is a counterpart, or should be, of nature.

We are creating higher ideals; we are studying the work of others; getting out of the ruts of our own rut-work and seeking the things that are known to be the best in the work of others. In other words, we are teaching ourselves to see, and when once we see we will not be content until we produce the ideal in our mind's eye.

Now we know that all subjects are not good subjects. We know that the men or women who so charm us by their manner, their conversation, and by the light and shade of conflicting emotions that pass over their faces while they talk, are presenting to us phases of character which it is almost impossible to catch; but to each one there is that something which is eminently characteristic of themselves that we can catch, that can be portrayed on the sensitive plate and kept for future generations. Mind you, we do not forget the dollars and cents side of the business, which must always be uppermost in order that we may succeed. But among your customers there is always some one who will draw forth your admiration, and in whom you will recognize a subject which, if properly handled, will stamp you and your work as first-class. This is your

opportunity, and you should not let it pass.

First of all, we believe that a man should be in love with his work; not in the sense that he will be blinded to the good qualities of the work of others, but really and truly in love with the profession which he has chosen, and filled with an ambition to be the best there is in that profession. It is only that kind of a feeling that will bring out the best that is in the man. Under these circumstances his faculties will always be alert, and the hours spent in the study of anything that aids him in his work will be among the most pleasant enjoyments of his life.

Above all things, *study simplicity*; try to see how little it takes to make a picture rather than how much. A portrait requires but little besides the person, and that little should never intrude. Most of the backgrounds are too fussy, too much broken up, and often too much in focus. Let your whole interest center around the face and figure of your sitter, and by all means strive to keep the picture within the plate. The shine of a row of big buttons will often detract from an otherwise delightful picture. If time will permit, talk to or entertain your patrons, at least long enough to see some peculiarity of their manner, some grace of motion which you can make use of. This will give originality to your work and call forth the highest praise; in fact, it will be like them.

Then, too, we would suggest that every photographer study all pictures that come under his notice, particularly if they be good ones. Not only do we mean prints, but engravings and paintings. Notice how the people are grouped, the accessories, light and shade, and, above all, study nature, never forgetting that you cannot represent nature, but you can approach her in a manner so like her own that people admire and applaud the close resemblance.

Study the papers and other materials you use. Do not become wedded to any

one, but always bear in mind that each has its good qualities, and will, under certain conditions, be the best for you to use. Artists work under the same conditions. You will sometimes see them use a coarse-grained canvas, another time smooth; sometimes they paint with the most dainty touch, again with broad sweeps and dashes. It is that they may secure certain effects which can be attained in no other way. Find new ways to trim and mount your pictures. Always remember to keep in harmony and good taste. In fact, when you portray an old man, catch that glimpse of nature that shows what his life has been. Let us see there the struggle and triumph of honorable manhood, a life well spent, a battle well earned; or, if it be one of ease, let that show also. In an old lady let us find all that motherly sacrifice, love of children, pride of family, and grandeur of womanhood, crowned with a blaze of glory. If it be a young man, let life's hopes and ambitions peer forth from his honest eyes; let manly beauty stamp the picture as one of nature's noblemen. If it be a young woman, let beauty of soul shine forth, hand-in-hand with virtue and modesty, maidenly dreams and aspirations, together with such charms of face and form as will make the picture a joy ever. If it be childhood, there is no limit to the sunshine and shadow that can enter into your picture. Every period of life has its characteristics, and these should be sought out as expressed in the personality of the sitter, and delineated with discrimination. Bald facts are rarely pleasing. Justice should be tempered with mercy. But there is always something in every face which will please and attract if we can draw it out in our portraiture. Strive in all you do to hold the mirror, as it were, up to nature.

Thus will photography join hands with her sister arts, and if we all do the best that is within us we will call forth the praise of all men.



## PRACTICAL PAPERS ON STUDIO WORK AND METHODS

### On Finding and Fitting a Studio

THERE are quite a number of young men just now, good operators or all-round assistants, who have been demobilized and returned to the ranks of photographers. No doubt quite a number of these contemplate later on utilizing their savings and gratuities to start in business for themselves. Many, however, have very wisely gone back to their berths as assistants, with the purpose of making up the leeway caused by five years of army life, for not nearly all of them have been in the photographic sections, and we all know how soon, in such an individual business as photography, the eye loses its knack of judgment and the hand some of its cunning.

These preliminary months can, however, be turned to vastly good use, and, indeed, are almost indispensable to the starting of a sound business, for there are many points that need much careful consideration beforehand, and if not carefully considered are apt to be paid for in very dear experience.

The first matter of importance is the seeking for and finding of suitable premises. If the studio is to be run by artificial light, this matter is much more easily settled than if for daylight work, and sometimes it is possible to effect a sort of compromise between the two at far less expense than is necessary if a studio must be built. Often a large, long room can be conveniently utilized by adding extra side light, and if lofty enough, electric light for the top, provided it is movable.

Now, this matter of position should be faced and considered at the very outset, for it has a marked effect on the after success or failure of the photographer. After years of experience, I find it is most generally conceded that it is better to sacrifice a good many things, and pay a good deal higher rent, for the sake of a good central position in a good business thoroughfare.

Cheap, roomy premises in a side street are usually dear at any price to a photographer who has to make his way and establish his name, and it is most often the side street man who degenerates into the mere hack-worker, who barely earns bread and cheese, and is never free from debt and worry.

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This matter of the "position" of premises is a singularly subtle one, and ought at the outset to receive a good deal more attention than it does, both care and attention being needed before a final selection is made. Even in these days of scarce houses, it is worth while to wait even six months or a year for what is felt to be a really superior spot for the class of work aimed at.

Try first to make a rough mental selection of the spots you would consider most suitable, in your mind, and then for a few months keep a good eye upon them and try and glean all the information you can about them. Outside information is often most useful, for it is really surprising the shades of difference that will be found in the kind of business done by firms in one single street. Often one end contains much higher-class shops than the other, or one side will be much busier than the other, which contains more dwelling-houses, and so on through many shades of prosperity, and it ought to be your aim to get a site in the part most suitable for *your* standard of work.

It is better to pay \$250 or \$300 a year more in rent and be in a spot where your work comes in steadily, and is seen by many, than to be in cheaper premises, and have only too much time on your hands to worry about where the rates and taxes are to come from. Yet many rash people have opened studios and never really considered this till it was only too painfully forced home to their minds. Another important point to think of before taking your premises is, what show can you make? If already you have an established name it doesn't matter quite so much, but it is really one of the photographer's chief means of advertisement. If at all possible, get a window to yourself, and if not, see that your entrance is suitable to show-cases and well lighted. A very narrow passage will not allow the passing of sitters or window-gazers if a pram or cycle is standing there, and this can make itself a very serious inconvenience.

If the daylight is not good, and the entry a dark one, see that your electric light is good and makes up for it. Do not grudge this; it is a wise expenditure. The matter of stairs is a consideration, for they are somewhat of a bugbear to

elderly or infirm folk, rather less so, to children, and should be kept well lighted.

Now, bearing these points in mind, finally weed out from your list those premises that are least suitable and turn your attention to the remaining ones that, roughly at least, "fill the bill," and see how far their internal arrangements suit your needs. If it is for electric light only, of course your needs are more easily met. But what do you need?

Firstly, your shop or reception-room, whichever you choose to call it; then, at least one dressing-room (for it is one of the most inconvenient things in the world to have no dressing-room, and causes much loss of time and patience), or two if possible, as they need not be large; then the studio; a finishing-room, for the spotters and retouchers, a room for trimmings, mounting, stock, etc. A dark room for developing negatives—which again need not be large—and a separate dark room for making prints, enlargements, etc. If there is a spare room it could be given to the retoucher for the sake of the better light.

These seven rooms represent the chief essentials for a business in full working order. They may, of course, be modified, adapted or increased as the necessity arises, but I think it will be admitted that all are wanted where all work is to be done on the premises. A corner of the studio will, of course, need to be fitted up as a changing-box, to save time.

Now, knowing just what you require, keep a sharp eye on all the really suitable premises, for good sites certainly don't go a-begging in these days of house and shop shortage.

Another thing to consider carefully is this: if you meet with an otherwise perfectly suitable site, but the size or number of rooms available are too small for you, and yet the position is otherwise all that you could desire, would it not be better to close with the offer and make use of the trade houses for a good deal of your after-work? There are several points here that present themselves. You can probably fit up a dark room where you can develop plates, and perhaps you yourself will do the proofing and retouching until such time as you may engage a retoucher, which is not by any means always done at first. Then, a trade house will turn you out the highest quality of prints, such as you would need a first-class printer and enlarger to secure. Thus you will at first be saved this expense. Also, they will undertake mounting and finishing if desired, and many even of the oldest-established firms now rely upon them for enlarging and coloring. Thus the purchase of an expensive enlarger can be saved for a while at any rate, whilst good coloring is really a specialist's department. Also, it will set the owner free to devote himself to unhurried, unworried operating—which any experienced operator is aware counts for a lot in the results—and the building-up of his business, with its hundred and one minor matters that all call for time and attention. Thus, it will often pay a young man starting in business best to sacrifice working room to a commanding position. This, of course, is entirely a matter for individual decision, but still it demands a good deal of careful thought before definite action be taken, and it is too late

to make a change. Also, later on, it is often possible to secure more rooms in the same block where there are sub-tenants. This, of course, is a case of patience and waiting until the desired opportunity occurs.

Having then leased your premises, you must next have electricity laid on, if not already installed, and see that sufficient is available to meet your needs. Now, over this I would like to add a special and very necessary caution. The insurance companies who take risks are fairly particular about electric fittings, and if not in accordance with their requirements they both can and will repudiate a claim should a fire occur, as a fair number of photographers have from time to time found out to their cost. So it is better to spend a few dollars extra in the first instance and make yourself secure, or you may find that the best companies decline to accept you, on the ground that your installation is not in accordance with their requirements for normal safety. The electricity companies should, of course, put this before you, but they don't always, so that too many "home-made" fittings don't always pay, though I have nothing against them in the main. In any case, where the premises are old, or there are wooden partitions to be wired, it is far safer and cheaper in the long run to have the cables run through small iron pipes, which will give you an easy mind and entirely satisfy the insurance folk. By the way, they ought also to furnish you with a list of the prohibited chemicals, which, when kept, invalidate the fire policy, unless kept under certain conditions, for which provision should be made in the first instance, as I believe flash powder is one of them. It is as well to invite the local representative of the insurance company to come and look around for himself and see that the conditions fully satisfy his company. I know of two instances where the owners got next to no compensation for a fire, as flash powder had been kept in wooden cupboards.

If, as is nearly always the case now, you intend to use electricity to aid daylight, see that sufficient current is available, and whether any cheaper rates are applicable to you, as is sometimes the case in large towns, especially after certain hours; in the course of a few years it totals up to a big difference. See to all these matters before you start decorating or fitting, as if everything is not just right it may mean tearing up your nice, freshly laid carpets and linos to get at floor and skirting boards.

If your premises have already a proper shop-front, it only remains for you to adapt it to your needs, but if you are putting in a window there are one or two things to consider.

The question of one big window or two smaller ones is and will remain a vexed question—that is, unless you are also going to deal in amateur supplies, in which case two separate windows are almost essential, to avoid clashing and maintain the fitting standard of display. Also this question affects the class of work you wish to cater for, and this must be the guiding principle in your mind throughout, for you must lay yourself out for what you want, and as far as possible see that you get it.

If you aim broadly at one fair, middle-class standard of work, one window will serve you very well, but if, on the other hand, you aim to do also a certain amount of better-class work, then I should say have two windows, most decidedly, and keep the two kinds of work rigidly separated, for there is no doubt that they appeal to two quite separate sections of people, and you will serve each best by keeping them apart; and, indeed, I know one studio well where one dressing-room is fitted and apportioned to one class of sitter with more elaborate fittings and toilet accessories, and the other and more simply furnished for the more average run of clients. This by the way.

If you are putting in a window, it is as well not to have the bottom of it too low, so that people have to stoop to see clearly what is in it, nor should it be too high, or it will not do the specimens justice, for they will be shown under a bad, false light during the daytime. From  $2\frac{1}{2}$  to  $3\frac{1}{2}$  feet from the ground is a very fair average height, depending, of course, upon whether the floor inside the window drops much below the street level.

Then there is the matter of ventilation, which is most important, for a badly ventilated window has a knack of ruining the best of specimens. No window should ever be put in without a steel ventilating grid at the top. An unventilated window, especially if cased in, is a vile trap for heat, flies and dust in summer, and in the winter will "steam" to such an extent that no one can possibly see through it, and the streams of water that trickle to the bottom will ruin mounts, plush or anything that is in the window, as the moisture condenses.

If you intend showing much in the way of post-cards, locket-rims and small stuff, it is best to have your window shut in at the back, with sliding glass panels, for on a main street this saves a good deal of labor in dusting window specimens, and keeps the window looking fresher, though for very high-class work it is perhaps hardly suitable. But where amateur materials and cameras are stocked it is quite essential. But care must be used, in enclosing a window, not to make the reception-room darker than can be avoided. Careful provision must be made for lighting the window at night and in the winter months, electric light, of course, being best and cleanest. No light should shine straight out into the eyes of anyone looking through the window, but be carefully screened and thrown into and down on the window itself and its contents. Some prefer the big, enclosed lights outside over the pavement, which do indeed throw quite a lot of light into a window, and also form a source of attraction to window-gazers outside. These, in both incandescent gas and electric light, seem to be coming increasingly into favor. If electric light is used inside, it should be arranged on fairly long flexes, and then from time to time these can be lengthened, shortened and altered to give changed effects of lighting. If it should be desired to show lantern plates, Autochromes or color transparencies, this is particularly useful, as the light can then be arranged behind them, diffused and shown through, and color work now has a big future before it.

The bottom of the window will need covering, and for this purpose a variety of things are used, plush seeming to be rather the favorite. Where, however, the bottom of the window is likely to be fairly well covered, it could be stained and varnished, or covered with a good, plain cork lino of a soft, harmonious color. If the window is enclosed at the back, care should be used to see that there is plenty of room to get into and out of the window, as if the panels are too narrow it will be rather difficult to get a large framed enlargement or easel into or out of the window without either personal injury or putting one or the other through the glass of the panel back. I know that these are all trifles, but, if badly made or carelessly arranged, they can be very aggravating trifles, and under the Workmen's Compensation Act the photographer would be liable for any injury so caused to errand boys or assistants, apart from the fact that it makes window-dressing awkward and difficult.—G. E. H. G. in *B. J.*

### Little Dodges

THERE are a lot of little dodges that are a big help about the studio and I hit upon one that has been a big help to me, so I am going to pass it along.

I happened in the studio of a friend I had not visited for a long time, and the subject naturally drifted to film, which we are both using. After looking over a number of film negatives and a lot of prints from these negatives, Smith began asking me about how we handled our orders and negatives, etc., and we seemed to check up pretty well on methods, but I had to confess, that he has me beaten on one small point, and that was on numbering negatives.

He laughed when I mentioned this point and said he would show me his numbering machine when we looked through the workrooms. We finally reached the dark-room and this machine was pointed out to me. It certainly was a crude bit of apparatus, but it did the work, which was all he asked of it.

First of all, it made perfect, clean-cut, transparent figures in a narrow strip of black background at the very edge of the negative, and the numbers never ran over into the negative as they sometimes do when we write them on with a pen. This is the way it was done:

The receptionist makes out an order slip for each sitting, and in the upper left hand corner of the slip, printed in black ink, is the serial number of the order. This is the number that is placed on the negative.

An opening had been made in the dark-room bench where holders are loaded and unloaded, and into this opening, a box had been fitted flush with the top of the bench. In this box, which had been rigged up by an electrician, was a small ruby bulb and a larger clear glass bulb. The wiring was so arranged that when a wall switch was turned on, the red light would burn continuously and when a button was pressed the white light would flash on and then off again when the pressure was released.

The box was properly ventilated, beneath the

table. In the top of the box a small glass window had been made, covered with black paper, except for a narrow slot about three-eighths of an inch wide.

When the light was on, the slot was red, but when the second switch was pressed, the light was white. When this much had been explained, in much less time than it has taken me to tell it, Smith closed the dark-room door and took the order slip from several loaded holders. He placed the slip face down over the slot so the order number was centered over the slot. The red light was strong enough to make the figures quite plain. He then took a film from a holder and placed it against a guide which brought the number on the very edge of the film about an inch from the side. While the film was held in contact, the button was pressed and the white light made the exposure that printed the order number on the film margin.

Placing the order slip face down reversed the figures so that when printed the number could be read from the emulsion side of the negative.

I am having order slips printed on fairly thin white paper with the serial numbers in good black ink, as I think this is one of the best little stunts I have ever seen. It not only makes a very neat job, but it makes it quite certain that the number on the negative will correspond with the number of the order.—*Photo Digest*.

### The Height of the Camera

It is not sufficiently realized by some operators how much the height of the camera influences the expression and character of a portrait. When a sitter has been placed in the best position, and the lighting arranged to suit the particular type of face, there are still many modifications which can be made by tilting the camera upward or downward. These changes in the position of the camera alter the perspective of the lines of the face and body, and make a difference in the general appearance of the portrait.

Pose a sitter with his head quite level and his eyes fixed on something the same height as the camera. Now lower the camera and tilt it upward, and you will see that, although the sitter has not altered his position, the head appears thrown back and the eyes turned upward. Then raise the camera and tilt it downward, and you will see that the head appears bent forward, the forehead broader and the face more pointed towards the chin.

When you take a head-and-shoulders portrait of a small man with a large bald head, don't have the camera too high—unless you want to emphasize the fact that his head is out of proportion to his body and that his hair has disappeared. On the other hand, when you photograph a stout full-faced man with a receding forehead, don't have the camera too low—unless you want him to look more like one of our savage ancestors than a man of today.

Then again, in taking full or three-quarter length figures, you can make a sitter look shorter or taller by raising or lowering the camera. A high point of view will fore-shorten a figure and give a squattness to the portrait. This should

never be done unless a sitter is abnormally tall and thin. A low point of view will make a sitter look taller. It is extremely useful to remember this when you make portraits of sitters who are below the average height. As a rule, sitters are very sensitive on matters relating to their stature; so much so that very often proofs are accepted or rejected simply because they please, or fail to please, on this particular point.

When children playing on the floor are photographed from a high point of view the charm of the picture is often destroyed by the fore-shortening of the figures. To avoid this the children can be placed upon a platform. But very few professional photographers nowadays will tolerate a cumbersome platform in their studios. The alternative method is to use a studio stand such as the Century Semi-Centennial, which allows the camera to be lowered to within fifteen inches of the floor.

These points in the manipulation of the camera become second nature to the careful operator who has made a close study of perspective and who applies this knowledge to his daily work.—*Professional Photographer*.

### An Outline of a Workable System

"A PLACE for never-a-thing and never-a-thing in its place," would be a more applicable rendering of an old-time proverb in the case of some studios I have visited.

There may appear much liberty about such a free-and-easy style, but the time is bound to come when it is dearly paid for by perhaps an hour's search of a single article, with all its attendant irritation. On the other hand, what compensation will result from a little self-imposed discipline in the pleasure of finding things just ready to hand when wanted.

Many and various have been the systems put forth. The writer, however, had adhered to none in particular, but as hitches have occurred (and they will) the point has been considered and a plan arrived at whereby the same hitch would not occur again, and, if workable, it has been included into the daily routine.

To begin, then, the system greets the sitter from the very outset, though behind the smiling face of the receptionist. All names, as well as addresses, together with the order, are systematically entered and numbered in the book for that purpose. It might be observed such a thing is too obvious to mention, yet the case of a money-making photographer comes before the mind who never kept books at all, and therefore never even the sitter's name. The number of copies required and amount paid was just penciled on the plate in the dark-room, and the photographs themselves served to distinguish between one order and another.

A good look at the photograph was followed by a scrutinizing glance at the caller in order to ascertain if the features were identical. But alas! for the chaos that resulted from such lack of system.

Proofs, then, are promised by a given date. Exposed plates are put into boxes, labelled for every day in the week on which they are taken.

When busy it is not always found practicable to develop the day's takings the same evening. It is convenient therefore to be able to put your hand on Monday's or Tuesday's and develop and proof according to promise.

The number, order and date promised is transferred from the book to the negative, the proof now returned confirming these details.

The negatives, when re-touched, are placed just where the printer will look for them, under a label showing what process and if contact or for enlarging.

A large paper bag is kept for prints requiring to be toned, labelled "Sepia."

The prints are pressed every morning and entered roughly in a printing book, showing the number of prints done and any over or spoilt.

A dispatch book is handy for reference in the case of callers or delay in post.

Another very important item is to have a nest of pigeon-holes alphabetically arranged, similar to what is seen at the post office, where all photographs "to be called for" are placed. Finally, when putting a thing out of hand put it just where it will be looked for when wanted. The observance of this rule will save time, temper and talk.—*Photo Lore*.

### Spacing the Portrait

A GOOD deal of the pleasing effect of the portrait depends upon the spacing in relation to the dimensions of the card. We have seen many an excellent picture injured by improper spacing, and lamentably, not because the artist was not conversant with the principles of taste or devoid of good judgment in the matter, but from an unaccountable predilection to conform to a certain cult of photography which advocates the crowding of the figure into crampedness. The figure often is made so large for the contracted dimensions as to suggest it were necessary to squeeze it into the limitations.

There is a happy medium which should be observed in the adjustment, and it is equally objectionable to have too much area about the figure so as seemingly to lose the subject in the surroundings.

Where this latter mistake may be made, an opportunity, at least, is afforded for correction by use of the knife, and the disadvantageous surrounding environment may be eliminated to the artistic health of the subject, but in the case of crowding, there is no remedy by patching up and extending the too contracted background. An erect figure with the head downwardly inclined ought always to have sufficient space at the top to allow (in our imagination, of course) the privilege of getting up without provoking the suggestion of danger of bumping against the top. Indeed, we think that all stooping or kneeling subjects should have space enough to allow of

their standing up if so inclined. Why, anyhow, should the photographer give this impression that his art necessitated him to pack his model as if in fear of encountering breakage? Wherefore the need of economy in the distribution of space?

We have often sought to divine why such styles are adopted, and have come to the conclusion that it is a case of the fox who lost his tail and tried to persuade his fellows that abbreviation of this member contributed to personal attraction.

It is strange how mannerisms in art originate from some undesired limitation imposed upon an original and resourceful mind by the necessity of conditions. Because some painter of renown commissioned to fill a space not specially designed for the exhibition of his work, taxes his resources to give the best presentation of the subject possible, and succeeds, is no argument in support of the practice of mere copyists for attempting the same where limitations do not persist, or to flaunt their skill as evidence of their originality, simply because of conformity to the work of the masters.

We think that this mannerism of introducing figures apparently too large for accommodation in a small dimension panel originated from the necessity imposed upon the old German masters, who were constrained to be economical in material. We have numerous pictures by Albert Duerer which show the head of the figure crowded in the space, and also pictures by many other engravers of the time and after, who followed in his wake.

With Duerer and the rest of them, to be just, it was not from any desire to affect singularity, but because in those days the graving tools were rude and it was difficult and expensive to procure wood blocks of good size, and so it became imperative to design the figure as large as possible, within the small compass, when so demanded. The habit thus acquired spread to the practice of drawing upon paper and also to painted canvas until it was acclaimed meritorious. The modern style of decorative painting, copied from the Japanese, of cutting off a part of the picture, be it figure or landscape, by the edge of the frame, is most deplorable, because there is no reason for it, artistic or economic. Yet this "stunt" has been seized upon with avidity by the photographer, who adopts anything because it is novel—a sort of jazz art.

Now, just stop to think, why should the figure have any interest outside the margin? Art is a presentation or suggestion of the actual—at least, photographic art should so be—and, when the subject seems to step beyond its limits, it produces incongruity. The school of Japanese art has afforded some good suggestions, but why slight the good features for preference in copying the mannerisms and conventionalities which cannot possibly have any influence upon candid taste in art? —*Trade News*.



# VIEWS AND REVIEWS



## The High Spots of the 1920 Convention

WHAT are the high-spots of the 1920 Milwaukee Convention?

1. *A Completely Fitted-up Studio*, in which the regular work of the studio will be carried on for several hours a day. Expert receptionists, under the supervision of Miss Mamie Gerhard, our third vice-president, will be in the reception-room and will tell how they handle their customers and sell them pictures. In the camera-room there will be a number of our leading photographers—one at a time, you know—who will work just as if they were in their own studios. The laboratory (sometimes known as the dark-room) will be fitted up with all the latest conveniences, but the laboratory will be for show only, as it will not be practical to put it into actual use. This is going to be a big feature. It will be arranged so that everything being done in the different rooms can be seen comfortably by all. We will tell you more about the Studio in the various photographic publications.

2. *Artificial Light*. Very complete demonstrations in the use of the various artificial lights now on the market. There is more inquiry about the use of artificial light than about anything else these days, and your Board has taken this into consideration and will give the matter full scope. It will pay you to go to this convention if for nothing else.

3. *The Interstate Trophy Competition*. The affiliated associations are invited to compete for a Trophy, in value \$250, which will be given to the best display of photographs sent in by these organizations. The rules require that not less than forty and not more than seventy-five pictures be hung by each association. There must be at least twelve separate exhibitors in each collection, and not more than six pictures may be hung by any one exhibitor. Three judges from States which are not yet affiliated with the P. A. of A. will pass on the collections and pick the winner. The Association that wins the Trophy twice will be its permanent holder.

4. *The Picture Exhibition*. This is open to every member, whether active or associate (employee). Three judges will be authorized to select not to exceed twenty of the best pictures hung and award them salon honors. The exhibitors receiving salon honors will be asked to give their salon pictures or duplicates of them to the permanent collection of the P. A. of A., but this will not be obligatory.

5. *Review of Pictures*. Several well-known photographers will be engaged to give part of their time reviewing pictures for any exhibitor who requests their services. Each reviewer will be assigned to a certain screen and will be on hand at that screen at stated hours. This to be in place of the usual written criticisms and rating.

6. *A Comprehensive Display of Materials*, etc. Practically every manufacturer of photographic material and apparatus will have exhibit space in the big arena, and certain hours will be set aside each day when there will be nothing doing to interfere with your thorough inspection of the goods displayed.

7. *Commercial Photography*. Under the supervision of Mr. Kaufmann of Kaufmann & Fabry, of Chicago, one of the best-known commercial firms of the country, there will be a special room, fitted up completely for commercial photography. Mr. Kaufmann will have the assistance of several expert commercial photographers and will have several sessions during the convention week. All who are interested in any way in commercial work will be invited to make this room their headquarters. Mr. Kaufmann intends to get the interest of the commercial photographers in this convention and in the P. A. of A.

8. *Demonstrations and Lectures*. The Board intends to make the demonstrations of genuine value. Each demonstrator will be picked for some special ability he or she displays in some certain line of work. The demonstrations will be different and the platform will be fitted up to the ideas and requirements of each demonstrator, so that they will work under the most favorable conditions. The lectures will be few but distinctly worth while. Full particulars will be given as time goes by.

9. *Some One Will Get All Expenses to the Convention Paid*. As the Manufacturers' Exhibition Hall is very large and some of the exhibitors will be further away from the entrance than others, it has been planned to ensure as far as possible that every one attending the convention shall visit every manufacturer's booth. Each manufacturer will be supplied with cards on which will be printed one letter only—a different letter for each manufacturer. A complete collection of these cards will spell a given slogan. The one handing in the complete collection of cards and giving the nearest correct answer will be given his or her entire expenses at the convention, including railroad fare.

10. *The Entertainments*. No convention is complete without plenty of amusement. These will be exceptionally good. On the first night (Monday) there will be the official reception by the officers at the Hotel Pfister; dancing, some entertainment, refreshments and general get-together. On Tuesday night there will be the grand ball in the magnificent ballroom of the Milwaukee Auditorium, where the convention will be held.

On Thursday night there will be the annual banquet. A full orchestra, a very high-class entertainment, and carnival features will ensure this evening being long remembered.

The Ladies' Auxiliary, of which Mrs. W. H. Towles is chairman, and Mrs. Frank Chambers secretary, with Mrs. Charles L. Lewis, wife of our president, the hostess, will look after the comfort of the ladies and probably prepare some special entertainment for them.

This is a rough outline of what you will see and hear at the Milwaukee "Better Business" International Convention. There will be lots more doing and, best of all, you will have the chance to renew old acquaintances and make new ones.

You'll be wanting to kick yourself all over the lot if you miss it, when your friends come home and tell you what a wonderful time they had and what a lot of new ideas they gleaned.

Oh, yes, here is another high-spot:

11. A prize of \$50 in gold to the studio employe who gives in the best suggestion, idea, device or appliance for use in simplifying the work in the studio, whether in the reception-room, camera-room, laboratory, printing-room or finishing-room. The best ideas offered will be given from the platform at one of the sessions. The board believes most thoroughly in giving our associate members a full share of this convention.

If we think of any more high-spots we will announce them in the various photographic publications. Watch out, from now on, for all announcements, and *begin now* to get ready with your picture exhibit and your plans to be there. By the way, the method of hanging the pictures alone will be worth making the trip to see. Remember August 23 to 28.

#### Sending to Exhibitions Abroad

SOME of our readers will be sending photographs, very soon, to the London and other exhibitions abroad. It may be of interest to them to know that, according to a ruling of the post-office authorities, if it is not stated otherwise at the time of handing in their exhibit, it will be understood this will go as printed matter, under which photographs are classified; and in case the package exceeds in dimensions 18 x 18 it will be returned to the sender, with stamps cancelled and lost. If, however, it is stated that the package is to be sent by parcel post, a declaration card is given to fill out, marked "parcel post," which can be made out in a couple of minutes, and the size may be up to 40 inches, and no further trouble will be experienced.

#### Applications de la Photographie Aérienne

By L. P. CLERC. Doin et fils. Paris, Price 7 fr. 50.

THE author has for some time enjoyed an enviable reputation as one of the leading French journalists, and under his editorship we had for some years *La Photographie des Couleurs* and *La Revue Scientifique*, the best of the European magazines. Quite recently he has taken up the class of work so efficiently carried out by him in the latter of the above two journals, namely, the abstracting of the photographic literature for the French Society of Photographers.

In this work we have the outcome of his ex-

periences as commander of the section of aerial photography in the late war, as regards the actual application of photography, and we are promised a later volume of the technic.

The work deals with the interpretation of aerial photographs, the evaluation of the heights of objects, the effect of artillery, in the first part, and then treats in a thoroughly scientific manner with aerial stereoscopic work. In the third part he considers metrophotographic work and the reconstitution of prints from constituent negatives taken at various heights and angles, with all the necessary mathematical formulas to correct the obliquity of the angle of view, etc.

The book will become an authority of that portion of the work of which it treats, and the only fault one can find with it is the extremely small scale on which the plans and photographs are reproduced, which makes it almost impossible to decipher the same.

This forms one of the series of the *Encyclopédie Scientifique*, published by Doin, and which promises to be one of the best series in any language.—E. J. W.

#### Bild und Film im Dienste der Technik

By A. LASSALLY. Wilhelm Knapp, Halle a/S.

THIS is, on the whole, an extremely disappointing work. The first part deals with roll films, and in a perfunctory sketchy manner, which leaves one with the feeling that there is absolutely nothing to be learnt from it. Apparatus and processes are described, but we would defy anyone to learn how to develop a film or do much else with it.

The second part deals with cinematography, and one has here also the same wishy-washy, indefinite semi-authoritative chaff from which it is difficult to sift out a few grains of wheat.

#### Das Pigmentverfahren

By J. M. EDER. Wilhelm Knapp, Halle a/S.

THIS is the third edition of the second part of the fourth volume of Eder's *Handbuch*, and although published out of its turn it is none the less welcome, particularly on account of the record of past work being invaluable. This volume does not fall behind his others, and it deals with the general chemistry of the bichromate salts in photography, their history and various uses, and thus deals with the carbon process on paper and glass in monochrome and colors, ceramic enamels, gum bichromate, ozotype, ozobrome, oil and bromoil and the various modifications. Even such processes as hydrotopy and the imbibition process for color photography are dealt with, and it winds up with the powder and photo-mechanical processes. Practical working details with all the various modifications suggested by anyone are included, so that the work is not only of great help to the practitioner, but of inestimable value to the historian or would-be patentee.—E. J. W.

### Be Kind to Your Eyes

FOR an organ the loss of which is one of the greatest misfortunes known the eye is more thoroughly abused by the average person than any other.

The trouble is "that the possessor of the normal eye," says an expert on the subject, "does not take into consideration that in nearly all work, as in reading, retouching, focussing, the eye is actively engaged, as well as the hands and brain, and that the eye only is at rest when looking into space or when closed."

Scientifically adapted spectacles, care to secure the right kind of illumination, and systematically resting the eye are the means of preventing eyestrain. Some of the local symptoms of eyestrain are: A sense of fatigue in the eyes, or a constant sense of discomfort in the eyes which is increased on using them, and which may be accompanied by severe pain in the back of the head; a sensitiveness to light, red, irritated, and inflamed eyelids; a twitching of the eyelid or a smarting, itching, burning and watering.

Persons whose work necessitates much ocular labor should vary their duties with intervals of rest. The simplest method of doing this is to fix the gaze on some distant object and frequently close the eyelids "is the advice of an expert."

All of the stated facts should be of interest to photographers; but the question is, how could a photographer that sits down and retouches all day follow the expert's advice? How could an operator, who makes sittings, and focusses all day, follow the advice of the experts?

It is here, where plain common sense, without expert advice, should dictate and that is to procure a perfected mechanical device, that does the very finest retouching, which no expert will equal, without the use of your eyes and without loss of time, or using any skill; the Artograph Screen (Patented in U. S. A. and other Countries) takes the place of the expert Negative retoucher. The manufacturers offer one hundred dollars to the expert retoucher anywhere in the world who can only equal (he does not have to beat it) and retouch a negative with a stippled effect, equal in fineness, smoothness, and regularity as is done by this wonderful device, The Artograph Screen.

The operator who works under the light and focusses all day, should investigate and send for full particulars of the Artograph Focus Hood, patent applied for, fitted with a lens that enlarges the image on the ground glass, see in one fraction of a second whether it is sharp, without eyestrain and without the old style focussing cloth. The full particulars are sent by mail, upon request, and without cost, by the Artograph Screen Company. Address in Adv. in another page of this issue.

### "Practical Retouching"

PRACTICAL PHOTOGRAPHY, No. 9, edited by Frank R. Fraprie, has been put into a revised and enlarged edition by the American Photographic Publishing Company. Written for the amateur, the author explains to the student how to make a retouching frame, how to acquire the best light-

ing effects, the right kind of pencils, brushes, retouching fluids and the right kind of "stroke." Several paragraphs are devoted to preliminary practice, etching, pencil work, the lines of the face, high-lights, modelling and other difficult points in the art. The book is illustrated with portraits and charts.

### All the Year

THE all-the-year photographer. The one who keeps busy all the time and recognizes the fact that this is the way to do business and not to work night and day for one month just before Christmas and then loaf or half work the other eleven months.

Now photographs are just as desirable in the spring as they are in the winter, and just as desirable in the summer as they are in the spring. The fact of it is, that the warm days will soon be here and ten to one, half the photographers have still last fall's style of cards in their show cases. They are not prepared to meet the demand for the style of picture that is wanted at this season of the year. You cannot expect business unless you make a bid for it. Go out after it, dig it up, make a display of photographs that will create a desire for photographs and be always everlastingly at it. The man who does not expect much business during any certain month of the year, you can rest assured, will not get any more than he expected. The less the demand, the greater the need for advertising and hustling.

Just as soon as a photographer learns that the photographic business is a business for twelve months in the year, they will begin to make money and they will talk entirely different from what they do at the present time. Talking dull business does not bring in \$ \$ \$. Going after business and getting it is the one thing that counts. This is an ideal time to show all kinds of summer pictures—reunions, views, "cirkut" pictures and to get the people interested for your summer business. Go after the business and be in position to take care of it when it comes.—*Ohio Photo News.*

### Photographing Idle Farms

THE Department of Agriculture of Pennsylvania is taking photographs of idle farms in Pennsylvania. These pictures will be shown in an attempt to get the people back to the farms by exhibiting the good buildings and equipment. A good idea.

### Photographic Star Images

DR. C. E. KENNETH MEES, director of the Research Laboratory of the Eastman Kodak Co., Rochester, N. Y., gave an address at the meeting of the British Astronomical Association, on April 28, on the nature of photographic images. Various points were raised that are of importance in the application of photography to astrophysics. Thus in the extra-focal determination of stellar magnitudes it was demonstrated that stars of different colors might have their magnitudes arranged in a different order, according to the exposures given and the developer employed.

Magnified sections of films were thrown on the screen, showing that with some developers the image of a luminous object caused an elevation of the film, but with other developers a depression. In either case the film in the neighborhood suffers strain (sometimes to the point of cracking), so that images of faint stars near a bright one are subject to displacement. Prof. Turner noted some time ago an apparent displacement of a star near a *réseau* line which was probably due to this cause. It is possible to minimize the effect by a judicious choice of developer. The address contained many other hints of a practical nature; it will be published in the *B. A. A. Journal* for April. The Astronomer-Royal, proposing a vote of thanks, said that photography was the only way of obtaining information about the fainter stars in bulk. While some of the phenomena described by the lecturer were a little disquieting, the careful analysis of their origin and effects could not fail to be of great value.—*Nature*.

#### Aphorisms and Assorisms

1. SOME photographers know so many developing formulae that they can't make a decent negative.
2. The speed numbers on plate boxes and on shutters often indicate exactly the same thing—disregard for truth.
3. Enlarging has its uses, but you can't make a flea look like an elephant by magnifying it. You only make it look a worse kind of flea.
4. If you think you can make a photographic process fool-proof it shows that you don't know all the kinds of fools there are.
5. When trimming prints, try to persuade yourself that a set-square is as good a judge of a right angle as you are.
6. Many photographers who feared that their early prints might fade live to be afraid that they won't.
7. The best plates in the world are those the advertisement happens to be talking about.
8. When some photographers put their head under the focussing cloth they are hiding the least efficient part of the outfit.
9. If you are dancing around trying to get great pictures with little trouble the best thing you can do is to reverse.
10. Our own best photographs are the result of rare technical skill and exceptional artistic ability; other people's masterpieces are lucky flukes.
11. A man may know all there is to be known about the theory of light, but a smart boy with a meter can knock him out on the question of correct exposure.
12. It's a lucky lens that wears its own cap.
13. When you see a genius with long hair, don't suppose you will be a greater genius just because you let your hair grow longer than his. Genius and long hair may sometimes be co-existent, but they are not identical.
14. A lens does not cover a plate any better for its advertisement covering a full page.
15. If you want to be original, be natural; you are the only one of yourself. If you want to be a mere imitator, remember the apes.
16. Many look at their prints and spend money on mounts and frames for them; whereas if they looked properly they would see a chance of a saving in fire-lighters.
17. Some photographers trust to luck when giving half-second exposures with a camera in the hand; others trust a tripod. The former curse their luck; the latter forget to bless the tripod.
18. Don't hunt for sentiment in a print till you have taken the spots out.
19. While some wait for photographic opportunities others hunt for them.
20. If a man says there are faults in your prints, respect him; if he says there are none, suspect him.
21. Spare the knife and spoil the print.
22. When you feel that you are only a very ordinary sort of photographer you have the consolation of knowing that you won't be lonely.
23. You must make mistakes before you make masterpieces.
24. A rich tone in a print does not conceal the poverty of ideas in its maker.
25. There is often not enough in our photographs because we have put in too much.
26. If you call a print an "impression," don't be savage if people forget that there are such things as good impressions.
27. When you see a good negative, don't ask its maker what camera or plate or what particular developer he uses. If you are seeking for information, ask him what size in hats he takes.
28. Before you find fault with a camera try to make one.
29. Don't brag about the number of good points in your prints. You never heard a hedgehog boasting.
30. It is not the plate-maker's fault that you use a dusting pad.
31. Take care that the back of your print is not preferable to the front.
32. Don't sneer at the photographer who wins a medal. You may win one yourself some day.
33. Many photographers call themselves beginners when they have not begun to begin.
34. An expert is one who tells other people how to do things he can't do himself.
35. There is no need to waste a deal of time explaining to people that you are only a novice at photography. Show them your work.
36. It is harder to make the best of a bad subject than the worst of a good one.
37. Never look a gift lens in the iris.
38. (Wellerisms.) "I'm off!" as the bellows said to the camera front. "Out, out, damned spot!" as the retouching pencil said to the pin-hole. "You're a stranger to me!" as the print said to its title.
39. You need not pass an examination in advanced chemistry to enable you to distinguish between sulphuretted hydrogen and lavender water.
40. Don't despise cheap apparatus. It by no means follows that it is the man with the best gun that brings down the most pheasants.
41. A dark-room is often too dark, and a light filter too light.—*Amateur Photographer*.



# *The* WORKROOM

**C**ONTAINING THE LATEST PROCESSES, FORMULAE  
AND APPLIANCES NEEDFUL IN THE ART OF  
PHOTOGRAPHY FOR THE OPERATOR & WORKER

Removing a Film From a Cracked Negative  
Methods and Formulæ  
Carbon Prints on Metallic Supports  
Artificial Lighting  
Handling Undeveloped Plates  
A Quick-drying Packing  
Photographing Animals  
Sulphide Toning  
Panchromatic Plates for Ordinary Work  
"Clouding" Portrait Negatives  
Bromide Wrinkles  
For the Junior Operator  
Covering Power  
A Wooden Sink  
Glazing Prints  
Castile Soap in Ferrotyping  
Some Simple Copying Hints  
Photographing Glass, China and Silverware  
Guide Negatives and Prints  
Red-chalk Tones  
Two Fixing-baths  
Local Bleaching and Dyeing in Two-color Photography  
Avoiding Troubles  
How to Make a Really Good Developing Dish  
Dark Studios



# THE WORKROOM

*By the Head Operator*



## Removing a Film From a Cracked Negative

It sometimes happens that a negative of value becomes cracked in such a manner that the glass only is broken, not the film. There are several ways by which the difficulty of printing from such a negative may be overcome so as not to show the crack. One method in particular is the insertion of a piece of albumenized paper or good tissue-paper between the face of the negative and a piece of clean glass plate the size of the negative, then binding the two together with strips of gummed paper. The best results are obtained by this plan when albumenized paper is used.

Sometimes more than one crack is produced in a negative, in which case the difficulty of utilizing such a defective plate is greatly increased.

Many times the question of how best to remove the film and retransfer it to another glass plate has arisen. One difficulty—if not the most important, has presented itself, namely, how to penetrate the substratum which holds the gelatin film composing the negative, so as to release it from the glass support, because the substratum is generally a compound of gelatine and chrome alum, which is harder and more adherent to the glass than the gelatin film. This is often noticed when cleaning old negatives with hot water and carbonate of soda. Although the film dissolves from the plate perfectly, the substratum still remains in patches in such an adherent form as to require the use of a knife to effect its complete removal.

There is a method of accomplishing this without the use of either hot water, soda, potash, or of strong mineral acids, none of which is certain in its action.

The process here to be described is one of great simplicity—one that can be used with certainty by any person, the solution employed being quite cold, and the application of heat being quite unnecessary. In fact, the colder the solution the better the result.

If the negative is a portrait and the face has been retouched, it will be advisable to remove the retouching with a tuft of cotton moistened with turpentine and cleaned off thoroughly. This, however, is not absolutely necessary, for a film can be removed just as well with the retouching on as if it had been removed. Whichever plan is adopted, a small amount of retouching will be required after retransfer. One point in particular must be attended to: the trays used must be thoroughly clean, and only hard rubber or composition trays can be employed, for reasons which will be explained. The bottles that are to contain the stripping solutions must also be quite clean. In fact, use new ones so as to be quite

sure of this. The results will repay those who undertake this extra trouble.

The composition of the chemicals given below is the same as that known as "Magus." It is not only simple, but sure and certain in its action. Prepare the two following solutions in two separate bottles:

### No. 1

Fluoride of sodium . . . . .  $\frac{1}{2}$  oz.  
Water (ordinary) . . . . . 16 oz.

Cork this bottle, shake well, and mark "No. 1."

### No. 2

Citric acid in powder . . . . . 1 oz.  
Water . . . . . 16 oz.

Shake this well, cork it, and mark "No. 2."

Have at hand a clean glass plate, say  $6\frac{1}{2} \times 8\frac{1}{2}$ , in a tray of clean, cold water. If the negative to be stripped is  $5 \times 7$  it should be transferred to a  $6\frac{1}{2} \times 8\frac{1}{2}$  plate, so that if the film is not placed quite truly, it will be a very easy matter to cut the plate to the right size after the film has dried. To strip the film from the cracked negative, take 4 fluidounces of No. 1 and pour into a tray of hard rubber,  $6\frac{1}{2} \times 8\frac{1}{2}$ ; then add 4 ounces of No. 2. Rock the tray so as to obtain complete admixture of the two solutions. Then immerse the negative, film side uppermost; carefully rock the tray, first endwise, then crosswise. Allow it to stand for half a minute, then rock again. It will now be seen that the film is frilling slightly at the edges. Rock the pan a little. Now, with the forefingers and thumbs of each hand, lift the film clean off the cracked plate, place it in the water above the clean glass plate, lift the plate by the two top corners, and adjust the film so as to leave a clean margin all round. Lift the plate and film together by the top, and drain slightly. Lay the plate in a horizontal position and carefully adjust the film so that there are no air bubbles present. See that the film perfectly adheres to the glass support. Then, after draining off the excess of water, allow the transferred film to remain in a horizontal position until dry. Never allow the drying to take place with the plate in a vertical position, for the film may become split. There is just enough tackiness upon this side of the film to admit of its adhering firmly to the glass plate. By this method of transfer a valuable negative may be saved for future usefulness.

A very useful adjunct for this class of work is a very thin *soft* squeegee. With the aid of this handy tool the transferred film may be set down very evenly upon its new support and the excess of water removed at the same time.

It may be advisable to make a trial or two upon some discarded negative before attempting the

transfer desired. This will give the practice and confidence necessary for the final operation.

The process will appear marvellous to those who have never performed such an operation. The true action is this: When any acid is brought into contact with fluoride of sodium (citric acid in particular), the element fluorine separates from the sodium base and attacks the glass surface through the porosity of the film. By this means the adherence of the gelatin film, together with its substratum, is released, the film being then easily lifted. At the same time the citric acid combines with the sodium to form citric of sodium, which remains in the water. Several negatives may be stripped in the same solution, but the solution will not keep. After use it should be thrown away.

If it is desired to enlarge the film after stripping, simply allow it to remain in the clean water for a minute or a short time longer, then proceed as before to attach to the glass plate. Caricatures are easily produced by this means—by stretching the film unevenly. The face or any part of the figure in a portrait can be easily distorted, and it remains permanently so upon its support.

The reason for using hard rubber or composition trays instead of glass or porcelain is to avoid their being attacked by the liberated fluorine, which would also lessen the action upon the negative.

### Methods and Formulae

*Writing on a Negative.* All that is required is a little ordinary copying ink. The required wording is written with it with a pen on clean white paper, the size required, and is allowed to dry. Then after soaking the negative in clean water, the surface water is blotted off the film and the writing paper is squeegeed into close contact with it. Dampening the back of the writing paper before squeegeeing onto the film is a good plan. After the lapse of about a minute the paper can be taken off and the writing will be found to have transferred to the film.

*Cleaning Glass and Porcelain.* An effectual solution for cleaning photographic glass and porcelain dishes which have become badly discolored is made of one ounce of bichromate of potash dissolved in ten ounces of water. When thoroughly dissolved add slowly one ounce of commercial sulphuric acid. Stir with a glass rod and be very careful not to get any of the acid on the hands or clothing, as it burns quickly. In cleaning the trays use a swab tied to a stick, and throw away after use. The best plan is to clean one's trays with soap and water each time they are used, for the once using cleans off very easily and avoids stains which have become set and impossible to remove. Stains from the developing of gaslight prints may be removed by substituting nitric acid in place of sulphuric. The sulphuric acid solution will also clean bottles stained from the storing of chemicals.

*Varnish for Bromide Prints.* The following water varnish has been recommended for giving increased depth and richness to bromide prints. A hundred and fifty grains of borax are dissolved

in five ounces of boiling water, and the solution has added to it—

|                            |         |
|----------------------------|---------|
| Shellac . . . . .          | 300 gr. |
| Sodium carbonate . . . . . | 50 gr.  |
| Glycerin . . . . .         | 2 dr.   |

After boiling for ten minutes the mixture is allowed to go cold, and then has five ounces of wood alcohol and a quarter of an ounce of pumice powder added. It is well shaken up, allowed to stand for three or four days, the clear liquid being decanted and filtered for use.

### Carbon Prints on Metallic Supports

GENERALLY, when the photographer desires to produce carbon prints upon a metallic support, especially upon a bright and highly polished surface, he employs a preliminary coating of normal collodion, this coating being relied upon as a substratum or go-between with the metal plate and the carbon print. This is especially so with a plate of copper that has been coated with silver and highly polished. For the production of carbon portraits upon bright copper or highly polished silver surfaces, the use of collodion is not necessary. Carbon prints upon metal surfaces are invariably produced by single transfer, so that the developing is made direct upon the metal. If the plate should be made of brass, nickel-plated copper, or a bronze of almost any description, then it is advisable to use a preliminary coating of collodion. This is necessary because of chromic acid which forms the base of the bichromate of potash (used to sensitize the tissue), attacks the zinc contained in brass, or the nickel coating on copper, or any nickel alloy combining with the nickel or zinc and liberating copper in a free state, giving spots and patches of copper upon the surface. Collodion being an inert body, acts as a neutral layer upon the surface of the alloy.

The preparation of the carbon tissue does not differ in any way from the usual practice. A very good sensitizing solution for the carbon tissue to be used may be prepared as follows:

|                                                   |        |
|---------------------------------------------------|--------|
| Bichromate of potash (c. p.) . . . . .            | 2 oz.  |
| Distilled water . . . . .                         | 50 oz. |
| Glycerin . . . . .                                | 15 dr. |
| Salicylic acid (dissolved in hot water) . . . . . | 15 gr. |
| Carbonate of ammonia . . . . .                    | 40 gr. |

When the above are completely dissolved, filter the solution through absorbent cotton and sensitize the tissue by immersing it for three minutes. Squeegee the tissue down upon a clean sheet of glass, then suspend it to dry in a ventilated and darkened room. Having the tissue ready, it may be kept for use in a printing frame larger in size than the tissue by placing in the frame a piece of thick sheet glass covered with black paper. Put in the tissue, replace the back of the frame, and keep the tissue under pressure.

If it is desired to produce a grained surface upon, say, a plate of copper or aluminum, proceed in the following manner: Clean the copper-plate

well by dipping it into and rubbing it with a small rag-mop dipped in a solution of lye. This solution is made by dissolving a small quantity of potash lye, about four ounces dissolved in one quart of warm water; allow it to cool off before use. The copper-plate must be planished and polished previously. Having cleaned the plate with the potash lye, wash it well and dry. When dry, brush the back of the plate over with shellac varnish or asphaltum varnish. Allow to dry in a warm place. The plate should be handled by the edges only, the fingers not being allowed to touch the surface. The surface of the plate must now be rubbed well with a stick of charcoal, such as is used by photo-engravers. Dip the plate and charcoal into water; lay the plate upon a smooth board, inclined over a sink, so that in rubbing the surface backward and forward, the surface grinding drops into the sink. The graining is produced by immersing the well-cleaned copper-plate into a mixture of

|                       |        |
|-----------------------|--------|
| Nitric acid . . . . . | 1 oz.  |
| Water . . . . .       | 20 oz. |

If the graining is to be coarser, the water must be reduced to fifteen ounces. In the course of a short time it will be seen that the surface of the copper has been attacked by the acid. Rock the tray a little, and in the course of a minute or two remove the plate, rinse it in running water, then scour the surface with a fine brass wire scratch-brush. This can be done by hand, or, if possible, use the rotary scratch-brush in a scratch-brush lathe of a silver plater. The object of the scratch-brushing is to rub down any slight burr formed by the etching of the acid. The plate may now be washed by dipping into hot water. It will dry by its own heat.

If aluminum be employed, hydrochloric acid (muriatic acid) must be used instead of nitric, because nitric acid will not attack aluminum except at a high temperature. The proportion of hydrochloric acid may be the same, with the addition of half an ounce of common salt. This lessens the intense action of the acid. The scratch-brushing must be resorted to as before, rinsing the plate, dipping into hot water, and drying.

Assuming now that a carbon print has been produced upon the tissue in the usual way, all that is necessary will be to take the copper-silvered, or aluminum plate, and dip it in the lye. Rub lightly with a soft cotton mop, rinse in clean water, and as quickly as possible soak the exposed tissue. Dip the tissue and metal plate into a syrup composed of

|                                  |       |
|----------------------------------|-------|
| White granulated sugar . . . . . | 1 lb. |
| Water . . . . .                  | 1 pt. |

This solution must be used only in a cold condition.

Place the soaked tissue and plate together; cover with a piece of India-rubber cloth, glazed side uppermost; place upon a level surface. Now apply a squeegee, lightly at first, then gradually increase the pressure at every stroke, not rapidly but with a slow, heavy pressure. If several plates are used, some bright, some grained, the treatment is the same. Allow the plates to stand

for fifteen or twenty minutes before developing. At the end of that period place them in cold water, allow to soak for a minute or two, then transfer them to a larger tray containing warm water. Rock the tray so as to get rid of the air-bubbles on the surface. Take the first tray, half fill it with water of a somewhat higher temperature, take one of the metal plates out of the warm water, immerse it, then carefully lift the tissue from one corner. All that will be necessary now will be to throw the warm water over the surface of the plate with the right hand while holding the plate in a sloping position with the left hand. In a very short time the print will be fully developed. Wash it by dipping into clean, cold water; then immerse it in alum bath compound of

|                       |         |
|-----------------------|---------|
| Common alum . . . . . | 2 oz.   |
| Water . . . . .       | 100 oz. |

The plate must remain in this bath for not more than five minutes, because the film should not be hardened too much.

Proceed in the same way with the other plates, and after the alum bath wash them by laying them in clean water from tray to tray, giving five minutes time to soak, so as to completely remove the alum. They then may be placed in a clean rack to dry.

Carbon prints produced upon bright silvered plates have very much the same effect as daguerrotypes, with this exception, the portrait may be seen at any angle, hence they have often been called daguerro-carbons. Prints produced upon aluminum have an exquisite velvety effect, being at the same time absolutely permanent.

Artificial Lighting

A PREVALENT idea among photographers, experienced as well as beginners, seems to be that the use of artificial light differs in some mysterious way from that of daylight. To a certain extent this is true, because in working with the former the source of light is usually small and more skill is needed in arranging it. Broadly speaking, the elementary principles of lighting are the same whether daylight, electric or flash-light be used, and if any difficulty be experienced in using artificial light it arises from these principles never having been grasped.

In the first place, the tyro must never lose sight of the fact that moving the sitter is equivalent to moving the light, and that it is much easier to move both sitter and camera than to alter the position of the lamp or lamps. As an example, we will suppose that a full-face portrait is required, and that when the model takes his seat the lighting appears flat and without character. This may be remedied by turning the face away from the light when shadow will at once appear. From the original position of the camera we have now a three-quarter view of the face, which is not wanted, so that we move the camera in the same direction, until we again obtain the full-face view. If the shadows are rather too heavy the reflector is used, due care being taken not to give the impression that a second source of light

has been used. Injudicious use of the reflector destroys the modelling on the shadow side of the face and obliterates all its characteristics. If there is excessive shadow under the eyebrows, nose and mouth it indicates that the light is falling too vertically upon the head, to remedy which the sitter must be placed further back from the light, while if the contrary be the case he must be brought forward.

A common fault is overlighting; that is to say, the face is so flooded with light that all delicate gradations are lost and the lighted side of the face appears flat and dense in the negative. This is due either to insufficient diffusion or to the sitter being placed too near the light; the remedy for this is obvious. It may be said that as a rule artificial light installations, as sent out by the makers, are inadequately supplied with diffusing arrangements, the idea being apparently to make them capable of giving results of some sort with the shortest possible exposure. A simple test for diffusion, when ordinary soft effects are required, is to hold a piece of white card in the position likely to be occupied by the sitter, and to observe upon it the shadow of an ordinary pencil or stick. If this be at all sharply defined further diffusion is necessary.

Although some forms of electric lamps are more convenient than others, there is no reason why, with a little study, good results should not be produced by any of them. Enclosed arc, open arc in reflector, mercury vapor and half-watt incandescent differ widely in appearance, but if properly controlled will produce negatives which are indistinguishable from one another. Half-watt lamps, if of high candle power, require much the same treatment as the enclosed arc; it is much better to use several smaller lamps when a thin white calico diffuser in front of each will be found sufficient. For very soft results a butter muslin head screen will be found useful. The small round diffusers issued with the orthodox reflectors are insufficient, except for strong effect, and allow light to escape at the sides, which may cause fogging if allowed to reach the lens.

Whatever form of light is chosen, the lamps should be capable of being raised or lowered. If permanently fixed sufficiently high for full lengths, they will be too high for sitting figures and children, the distance causing the exposures to be needlessly prolonged. If several lamps are used each should be provided with a separate switch, so that only as many as are actually needed are kept running.

The beginner will do well to keep before him as a guide a good photograph, showing the style of lighting he wishes to produce, to arrange his lamp reflectors and diffusers until everything appears to be correct to his eye, and to note their positions carefully. Then and not until then make an exposure, which should be developed and printed for comparison with the guide photograph. If not quite satisfactory a second trial should make it so. This operation should be repeated with various styles of lighting until all are mastered. A little systematic work of this kind will do more to secure good work than months of haphazard exposing and making alterations without any clear idea of what they will effect.—B. J.

### Handling Undeveloped Plates

MANY operators have a habit of taking exposed plates out of the slides and putting them in a plate box until they are ready to develop. There is nothing wrong with the idea, but the way the plates are laid in the box makes a great difference. The first plate should always be placed in the box, glass side down. This prevents the emulsion side from coming in contact with any chemical dust or moisture that may have been taken up by the pulp board of which the box is made.

When you lay the first plate in the box glass side down, and the second plate glass side up, with nothing between the two, you bring the emulsion sides of the two plates together, and they will be perfectly safe until you are ready to develop them.

Traces of perspiration and chemical impurities are transferred from the fingers to the backs of plates during handling. These marks from handling will do no harm if the emulsion sides of the plates are always packed together. But if the first plate is laid into a box emulsion side up, and the next plate the same way, the emulsion side of the first plate comes in contact with the finger marks on the glass side of the second plate and these marks are offset on the emulsion. When the plate is developed, the marks sometimes show as distinct fingerprints and sometimes only as irregular opaque blotches. Bare hands never come in contact with either the glass or the emulsion side of a plate in manufacture or packing. The plate makers and packers wear clean gloves and they handle plates entirely by the edges. Plates are always packed in the boxes face to face and back to back.

Handle them the same way in your dark-room and you will not have any of your negative ruined by fingermarks.—*Professional Photographer.*

### A Quick-drying Backing: How to Make and Apply it

IT has been so frequently advised that all exposures should be made on backed plates, that one might have expected that halation would now be a trouble of rare occurrence; but unhappily this is not the case, and perhaps the extra charge made by manufacturers for backed plates has a good deal to do with this. As backing is not a very expensive article to make, this extra charge is, no doubt, chiefly due to the extra manipulation required in the application of the backing, so that the amateur may save himself considerable expense by taking this not very heavy work upon himself. The objections will probably be raised that it is a dirty operation, and that the plates get fogged, especially during the long time occupied by the ordinary backing in drying. The object of these notes is to show how both the mess and the fogged plates may be avoided. First, as to the backing itself; the points to aim at in the manufacture of such a preparation are:

1. That it should really prevent halation.
2. That it should dry quickly, and when dry should not powder or drop away from its support.
3. That it should be easily removed by an application of cold water.

After a considerable number of experiments, I have found the following formula to meet the above requirements almost perfectly:

|                          |           |        |
|--------------------------|-----------|--------|
| Caramel (solid)          | . . . . . | 1½ oz. |
| Burnt sienna (in powder) | . . . . . | 1 oz.  |
| Soap mixture, about      | . . . . . | 1½ oz. |

The caramel may be made at home by heating white sugar till completely liquid and blackened, when, on cooling, it will set into a dark, brittle, glassy mass. The soap mixture is best made by mixing together, in a bottle, 1 ounce of finely shredded Castile soap and 3 ounces of wood alcohol; this mixture should be allowed to stand for some hours, then the bottle should be kept immersed in water as hot as the hand can bear for half an hour, being frequently shaken during this time. The undissolved portion should then be allowed to settle, and the clear liquid poured off. To make the backing, the caramel is first powdered in a mortar, then the powdered sienna added, and the two well rubbed together. To this powder sufficient of the soap mixture is then added to form a mixture of creamy consistency. At once the best and most simple method of applying the backing is to hold two plates together, face to face, and paint on the backing with a fairly large camel-hair mop. By using this method the plate is protected from the action of the dark-room light by the backing, and so fog arising from this cause is avoided. The plates need not be coated absolutely to the edge, so the operation may be performed without dirtying the fingers. After backing, the plates should be exposed to the air for about five minutes, when they will be sufficiently dry to place in the dark slide, or to repack in their original backings. When ready for development the backing may be easily and completely removed by wiping with a damp flannel or sponge. In the case of plates highly sensitive to red it might be found advisable to substitute a black powder, such as drop-black or lampblack, for the burnt sienna prescribed for ordinary use.

### Photographing Animals

Look through the magazines that are devoted to stock-breeding, farming, dog-fancying, sport and natural history, and you will get some indication of the numbers of animal pictures used for reproduction. These reproduced photographs, however, do not show all the pictures of animals that are being made. There are thousands taken for private purposes, and these never find their way into the magazines. The demand is big, so big in fact that some branches of the work take all the time of highly-skilled specialists. Some of these branches lie so far beyond the bounds of regular professional photography that no man could run them as side lines.

Nevertheless, there is a great deal of work which can very well be done by the regular professional, if he has any natural inclination for it and is prepared to give it a little earnest study.

Two distinct classes of work are required. The first is to take well-bred animals in such a way that all their good points will be shown to the best advantage. Artistic lighting, good composi-

tion and all that goes to produce pictorial effect, are of secondary importance in these photographs. The owners want pictures to show that their animals are perfectly formed and marked according to the standard of their particular breed.

This work requires a knowledge of animals. Suppose, for example, that you were asked to photograph some valuable Skye terriers, and that you knew absolutely nothing about the good points of these dogs. You could doubtless get some excellent negatives, but it would only be by the merest chance that one of them happened to be of any use to the owner. You wouldn't know that long bodies, short legs and deep muzzles were some of the points you were expected to emphasize in the photographs.

The shape of an animal's body, the length of its legs, the size of its head and the way it carries its tail will give you plenty to think about. Your negatives of animals will need as much careful treatment as those of your most fastidious lady sitters, who are so particular about their figures.

The second class of work is totally different. This is simply to make pleasing pictures of pet animals. Here pictorial effect is of great value, and more attention can be paid to composition than to showing good breeding.

What about apparatus? Most of the best known men who take cattle, sheep, horses and dogs, prefer to use a strong, rigid, view camera with a fairly long focus lens. For some kinds of work they find a hand camera such as the Graflex not only very useful but practically indispensable. Quiet domestic animals can easily be taken with a tripod camera, but restless timid ones that have to be stalked in a field can be better managed with a Graflex.

It is not wise to use a focussing cloth of a bright red material—the photographer who sets out to photograph a bull, and forgets this point, is likely to have a lively time.

Now suppose you have an order to take a valuable hunter, and that you have made yourself acquainted with the various points which the owner will want emphasized; how are you going to tackle the work? Before going any further, just turn to a professional horseman's magazine and examine the photographs of horses. In the pictures reproduced, every leg of the horses will be clearly shown; and not only that, every leg is helping to support the body—there is no crouching, no leaning and no "lazy leg" taking a rest at the expense of its brothers. Note how each horse holds its head high in the air so that its graceful neck may be shown to advantage; and note too the absence of distortion secured by selecting a broadside position and by using a lens of a fairly long focus. There is more than a knowledge of photography shown in these pictures if they are what they should be. There is evidence that the photographer has a sound knowledge of horses and that he is in sympathy with his subjects.

A good horse always looks best with as little as possible in the way of harness, bridle or other trappings, and for this reason the happiest pictures are those taken in the open field. Direct sunlight is nearly always an advantage seeing that it throws parts of the body into relief. It

is a good plan to place the horse on a slight incline so that the fore feet are a trifle higher than the hind feet. This position throws the head up. To get the position of attention, with the ears pricked, snap your fingers or make some slight noise, such as rattling a box of matches.

When you understand horses thoroughly, you will know just when to make your exposure—you will know instinctively what the horse is going to do next. A full exposure is essential, also a shutter that works silently.

Photographs of horses at work, racing or jumping, must, of course, be taken with high-speed shutters, but that class of work hardly comes within the scope of this article.

Now consider cattle and sheep. When an individual portrait is wanted, the animal should be cautiously separated from the rest and driven into a corner of the field or yard. The very tameness of domestic cattle raises a curious difficulty. When you go into a field they generally like to crowd round you and thoroughly inspect both you and your apparatus. It is well to take as little notice of this as possible, because after they have satisfied their curiosity they will return to their grazing. The best time to photograph cows is just before milking-time when they are waiting about in small groups. During the heat of the day a cow's tail is nearly always on the move, and you may have to wait a long time for a favorable moment for making the exposure.

The pictorial value of cows and sheep is so well known to photographers that very little need be said on that score. It may be pointed out, however, that there is always a good demand for artistic pictures of this class and that good prices are paid for them. Also that they do not go out of style and sometimes yield good profits for years. They should always be copyrighted.

In photographing dogs, most of the suggestions given for taking horses may be followed. Watch the position of the legs and head, and—a most important point—be sure you show the tail erect, straight out or hanging down, according to the breed of the dog. To get a dog's attention, do nothing to excite him. Shouting "rats!" or "cats!" would of course, make him look lively, but it would also make him so restless that you would have difficulty in keeping him under control afterward. It is much better to get him quietly interested by letting him see you break up a biscuit. Another dodge is to imitate the buzzing of a bee; this makes him prick up his ears without wanting to jump about.

Cats are not nearly so easy to manage as dogs. They will rarely allow themselves to be handled except by their owners. A tuft of cotton tied to a piece of thread and slowly drawn along a table will generally arouse interest for long enough to make an exposure.

Pleasing photographs of kittens are always in demand for postcards and magazines. There are some professionals who have specialized in kitten photographs, and judging by the number of their published pictures, they must have made money out of it. It is not much use taking up this branch of work, however, unless you have a liking for your models, because to succeed you must be on good terms with them.

The demand for good photographs of animals

is steadily growing, and the photographer who adds a knowledge of animals to his knowledge of photography is the man who will get the work.—*Photo-Digest.*

### Sulphide Toning

THE method of bleaching bromide prints with ferricyanide-bromide and toning in sodium sulphide is still very popular, and there is no doubt that with proper treatment the results are very satisfactory. The color produced is usually a warm sepia, while that produced by the hypalum bath is cold sepia.

There is, however, one point in which the hypalum toned print scores over the sulphide tone print, and that is in the purity of the whites.

From experiments made in our own laboratories, we find that in sulphide toning it is not possible to obtain absolute purity of the whites. The degradation is slight, and cannot be entirely eliminated, but it can be minimized by thorough fixation. Prints that were fixed in two separate baths for fifteen minutes each showed very little loss of purity in the whites, and this appears to point to the fact that the degradation is caused by silver being still left in the gelatin or its support.

Varying strengths of bleacher and sulphide did not make any material difference, but it was found that when a print was "forced" in development the whites after toning showed decided degradation. In order to produce the best results in sulphide toning it is necessary to pay particular attention to the following points:

1. Prints should be correctly exposed so that in development they reach the full depth in the usual time—"forcing" is not only useless, but sometimes causes fog.
2. The fixing must be thorough, preferably in two separate baths, and the washing must also be thorough.
3. The sulphide solution must not be used too weak.
4. Prints should not be left in the sulphide bath a moment after they reach the full tone.—*RAJAR, Trade Notes.*

### Panchromatic Plates for Ordinary Work

TO the majority of photographers the panchromatic plate is a fearful and wonderful production, and many fail to avail themselves of its valuable qualities because they fear that the risk of fog is too great to be dealt with. As a matter of fact a panchromatic plate is no more liable to fog from white light than an ordinary plate of the same rapidity. The only difference is that being red-sensitive, it must not be exposed to the ordinary dark-room illumination, no matter how feeble it may be. It is safer to develop a panchromatic plate in a room lighted by an ordinary candle, using only light reflected from the ceiling, than by the deepest ruby light. In our own practice we prefer to develop in darkness, using either a tank or, for single exposures, a dish fitted with a tin cover. The plate is placed in the dish and flooded with developer in the dark, then the cover is put on, the light turned up and the dish rocked until development is complete. We find five minutes a convenient time for development,

using the solution more or less diluted as a soft or vigorous image is required. After development the light is again turned down, the plate transferred to the fixing tank, which is, of course, kept covered, until fixation is well advanced. It is as well to have all panchromatic plates backed as not only does the coating serve as a protection when filling, but it renders it almost impossible to mistake the sides when filling in the slides.—*B. J.*

### "Clouding" Portrait Negatives

ARTHUR WHITING gives the following directions: Varnish the retouched (or otherwise) negative with what is known as matting varnish, of which the following is a good formula, viz.:

|                              |                        |
|------------------------------|------------------------|
| Seed lac . . . . .           | 2 oz.                  |
| Sandarac . . . . .           | 2 oz.                  |
| Oil of lavender . . . . .    | $\frac{1}{2}$ oz.      |
| Castor oil . . . . .         | $\frac{1}{2}$ to 1 oz. |
| Methylated alcohol . . . . . | 40 oz.                 |

The addition of some powdered glass will facilitate the solution of the gums, and gentle heat usually has to be used also. When dissolved allow to stand for several hours, then decant, and filter once or twice (an advantage). Great care must be used to ensure both negative and varnish being absolutely free from dust, as it is fatal to success in this class of work. After the negative is cold rub the varnish gently down with the fingers, which have been previously dipped in powdered resin. When a uniform matt surface has been obtained wipe off with cotton-wool and keep the latter for further use, as dusting the negative with this impregnated wool is infinitely superior as a preliminary to dipping the fingers in powdered resin.

The negative is now ready for clouding, which is done with the aid of a stump (a tint-stump for broader surfaces) and some electrotyper's plumbago.

For the stump choose a very firm-pointed paper, about half an inch or more in diameter, and rotate the pointed ends on a piece of fine glass-paper until they present a perfectly smooth and silky appearance with fine points. A tint-stump can be made by screwing a small flat button on to the end of a penholder, and covering the knob thus formed with two or three thicknesses of ordinary surgeon's lint.

Place some of the plumbago upon a wash-leather pad, and work it well into the leather with the ordinary stump. When the latter is evenly charged (not too heavily) apply it over the background of the negative so as to form clouds "in negative," the best kinds for the purpose being those known to meteorologists as cumulus, cumulo-stratus, and "scud." It is important to make the highest lights in the clouds less intense than those of the features, otherwise the artistic quality of the production will be lost, and the picture look "made up." Let the work, therefore, be of a subdued tone, the highest lights equalling in depth the middle tones of the face, and placed on the shadow side of the latter. By doing so the portrait will be thrown up, and if the clouds on the lighter side of the face are only

faintly portrayed, it will give the effect of light striking them after it has passed the sitter, and will cause the background to build up and harmonize with the rest of the photograph instead of detracting from it. Again, it sometimes happens (if the clothing is of a similar tone to the background) that the shoulders seem to merge into it, and when this may be undesirable it is easy to bring them into relief by clouding the latter over their immediate vicinity, any overlapping of the work being afterward erased with a retouching knife used so as to glide over the varnish without scraping it.—*B. J.*

### Bromide Wrinkles

THEORETICALLY, there is no simpler process for producing photographs than bromide printing, but one does not go far in practice before finding out that it is not quite so easy to produce good prints as it looks, quite a number of ways of spoiling paper being open to anyone of average ingenuity. I, therefore, assume that my readers are conversant with the ordinary routine of exposure, development and printing and take up the story where trouble begins.

Dirty margins frequently appear with some workers and rarely with others, showing that the manipulation rather than the material is faulty. Sometimes in the case of a vignette one finds a brownish and gray fog extending half an inch or more from the edge and sometimes the entire margin up to the image is more or less degraded. With some papers the stain is of quite a bright orange yellow, and may even extend over what should be white portions of the image itself. This defect is usually caused by forcing the development of an underexposed print, and is more likely to occur if the paper is rather stale than when it is quite fresh. It may, as a rule, be avoided by giving a fuller exposure and increasing the amount of bromide in the developer. Great care should be taken to avoid contaminating the developer with hypo; a very small trace of this will cause stains, as witness the yellow corners which frequently appear upon the corners of enlargements which have been pinned up by hypo-contaminated fingers. Those who print in P. O. P. realize what a small trace of hypo will spoil a print, but it is not so generally recognized that the same thing occurs in a lesser degree with bromide paper. It is a curious thing that a large number of people do not see that if the dark-room towel is used to dry fingers dripping with fixing-bath the hypo so carried into the fabric will later on contaminate fingers which have been carefully washed. I have repeatedly seen printers turn over a batch of prints in the fixing-bath and dry their fingers on the towel without rinsing them first, then after removing the prints to the washing bath carefully wash their hands, dry them upon the hypo-soaked towel, and start on making more exposures. Fortunately, most stains so caused will yield to the iodine-cyanide reducer, to which I shall presently refer.

A general muddiness or dinginess of the whole print is often caused by using a developer which has become oxidized either by too prolonged use or by allowing development to go on while holding the print in the hand. This is frequently

seen when an attempt is made to develop a sky or other light portion of a print locally, the remainder having been slightly rinsed or even left with the exhausted developer upon the surface. Some paper makers recommend transferring the print directly from the developer to the fixer without rinsing. This carries a large quantity of developer into the hypo and dirty-looking prints will result if the hypo bath be not frequently renewed. As a rule, when acid fixing-baths are used they are overworked, and many failures in sepia-toning may be traced to this cause, the print when toned appearing to be upon cream paper instead of upon white.

Much may be done to save stained prints by using a clearing solution. I have found none so satisfactory as iodine and cyanide. To make this I keep two stock bottles: one a 5 per cent. solution of iodine in iodide of potassium, and the other a 5 per cent. solution of cyanide of potassium. For use, about ten minims of each are added to an ounce of water, the strength being regulated to suit the work in hand; more of each solution is necessary for deep stains, and less for removing a slight general fog. With practice it is quite easy to effect local reduction by using a pad of cotton-wool dipped in a fairly strong solution. I have often turned a solid print into a vignette in this way, put lights in on clouds in a sky, and even removed portions of the image from the center of the subject where a clean surface was required for working up. This reducer is the only one, as far as I know, which will act upon a sepia-toned image, but I would recommend that any cleaning-up or reduction should be done before toning, as the untuned image is more readily dissolved.

A print which is flat and heavy-looking all over may be greatly improved by having the lights brightened up with a solution of iodine followed by a plain hypo bath. To do this we take enough water to cover the print, and add to it enough of the 5 per cent. iodine solution to give a sherry color; on immersing the print the back of the paper will at once turn to a deep blue color, but the gelatin side will not change color for a minute or two. When the high-lights turn to the blue color the print is rinsed and transferred to a 15 per cent. solution of plain hypo; the blue will immediately disappear, and the image will appear brighter. If the reduction be not sufficient after five minutes in the hypo the print may be well washed till free of hypo, and the process repeated. If the iodine solution be too strong there is a tendency for the half-tones to be eaten away and the print made harsh-looking. This method of reduction has been recommended for obtaining bright prints from thin flat negatives, the print being rather overexposed, fully developed and cleared with the iodine and hypo.

The ordinary ferricyanide and hypo reducer may be used in the same way as the mixed iodine and cyanide, but there is a possibility of the reduced portions becoming a different color from the rest of the image, this being specially likely to occur when a weak hypo solution is used. I have found a clean 15 per cent. solution of hypo tinged a full lemon yellow with a 10 per cent. solution of ferricyanide of potassium to give the most satisfactory results.

To obtain good sepia tones, bromide prints must be fully developed, at least a minute's development being necessary, while two or even three minutes are needed for really rich tones. Fixing in clean hypo must be thorough, and all trace of hypo removed by washing. Even a slight trace of hypo will unite with the ferricyanide and reduce a good print to such an extent that it will not darken properly in the sulphide. Weak sulphide solution is a common cause of bad tones. If the paper will stand it without blistering, I prefer a working strength of one part of sulphide in fifty of water, instead of one in a hundred as generally recommended. Prolonged immersion in weak sulphide will not give the same result as a shorter time in a stronger solution. Liver of sulphur, or "potassa sulphurata," as it is called by the chemists, is an excellent one-solution toner with some brands of paper, but it is not suitable for others. In some cases I have been able to get any color from a warm black through various shades of brown to a warm sepia, but in others I have not been able to get beyond a purple black similar to a deeply-toned P. O. P. The process is very simple, and resembles hypaluminum toning, as the solution is used warm and only a single solution is needed. The formula is: liver of sulphur, 60 grains; water, 15 ounces; ammonia 10 minims. This is used at a temperature of about 100° F. Some papers will tone without preliminary hardening, but most brands should be treated with a 5 per cent. formalin solution for five minutes, or the film will dissolve. The toning is continuous, and the print may be removed at any stage. It should be noted that the toning continues in the washing, so that the print should be taken out before the desired color is reached. I have found that much weaker prints may be successfully toned in this solution than by the ordinary sulphide process, but the paper must be suitable.

Rusty-colored prints, which are sometimes inevitable when printing from very hard negatives which must be overexposed and underdeveloped, may be greatly improved by toning in an ordinary gold and sulphocyanide bath, as used for P. O. P. The print on being immersed in this will slowly turn to a pure black or gray, and if left in too long to a bluish slate color. It is desirable to fix in a weak hypo solution after toning to prevent any possible change of color, but I have found prints not so treated to stand very well.

Another method which I can strongly recommend is to use the ordinary chromium intensifier, which will usually transform a poor, washed-out print into quite a brilliant one. The bleaching bath consists of potassium bichromate, 10 grs.; hydrochloric acid, 5 minims; water, 1 oz.; after bleaching, the print is washed until the whites are pure and then re-developed in an ordinary amidol or metol-hydroquinone developer. It is necessary to expose the bleached print to daylight during or after bleaching or the image may refuse to blacken.—PRACTICUS, in *B. J.*

#### For the Junior Operator

GOOD operating is the first essential of good photographs, but to be a good operator needs

much careful study. At the same time, however, this study is amply repaid by the skill and certainty that it gives. Operating is in itself a most fascinating thing, and the more of it you do the more of it you will want to do, and the more successful you are the keener you will get at it, and this keenness is the best guarantee of your doing good work.

To start with, try your hand at getting good and well-lighted heads, as this is the sort of good, straightforward work that is always wanted. Aim at getting a good, clear, full lighting without any very heavy shadows at the sides or under the chin.

Then you must consider the best angle for both the head and the body, in relation to each other and to the background.

To say light for the sitter and not for the background seems needless advice; yet it is not, judging by some of the backgrounds one sees, which literally seem to hit one in the eye, so sharply are they focussed. Some of our most expert operators will keep mostly to one or two grounds, of which they get quite fond, yet to look at their work one would never think they were taken against the same ground. And how is this done, you say? Well, it is just the outcome of the careful selection of the best bit of the ground to use for each particular sitter, and putting them at the proper distance and angle against it. In this way an endless number of effects are obtained.

If your camera shows a larger picture than you need—say, a half-plate size when you only want quarter-plate—take a stout piece of brown paper and out of it cut a piece the size of a quarter-plate, then lay this mask over the focussing screen, so that you see only the figure and part of the background that you want. Study them carefully, altering a dozen times if necessary until you get just the effect that you want. And don't be satisfied until you do get it.

The thing that gives most life to a photograph is the expression in the eyes, and this will only be obtained by careful watching for the best point at which to center them. The eyes are the point which many operators like to focus on.

Reflectors also are things that need using with care. If you can do without them, so much the better. Watch the sitter while you are focussing and try to catch a natural expression, and then, while exposing, try and get it again.

You might do much worse than put in a few wet Wednesday afternoons in having a good practice on some long-suffering friend, simply using empty slides for this purpose, yet going through the whole process, right down to drawing the slide and making the exposure. I have found that this gives one much greater confidence when the trying moment of actually taking one's first sitters comes. Remember that a clumsy operator means a nervous sitter as a rule.

If you live in a small town where there are not many photographers, make a point of studying the society portraits in the magazines. This will give you ideas and keep you from falling into a rut.

Perhaps the best advice to give an operator

when at work in the studio is "keep cool." Ask yourself before you expose, "Is everything just as I want it?" for sitters have a naughty way of wriggling just while you are putting in the slide. Thinking will also save you from getting two exposures on one plate—one of the sorrows of the operator's soul.

Try and make your sitter look as natural as possible, and remember that the best verdict your work can receive is "What a speaking likeness," and this is the goal you should aim for.

It is little details that go to make a perfect photograph, so look out for the details and they will be their own reward.

In trying for fancy lightings a good rule is to start with the least amount of light you can make do with, as it is always easy to increase it.—G. E. H. G., in *B. J.*

### Covering Power

WHEN the "covering power" of a lens is spoken of, two distinct meanings have to be taken into consideration, one being the diameter of the largest circle which the lens will project upon the ground glass at its principal, or, as it is more commonly called, its infinity focus, while the other is the diameter of the circle which is sharply defined. Through not differentiating between these meanings, unscientific lens users have often been disappointed. It is often said that reducing the lens aperture increases the covering power, and this is quite true if we take the second meaning, but as far as the size of the circle of illumination is concerned the contrary is sometimes the case. There are certain excellent lenses which have the diaphragm so placed that the field is reduced when the smaller apertures are used. Another misconception as to covering power frequently arises when copying. There are still many photographers who believe that when making an enlarged copy the lens used must be capable of covering the plate in normal circumstances, while the truth is that it need only be able to cover the area which is to be enlarged from.—*B. J.*

### A Wooden Sink

LEAD-LINED sinks are costly, and so are those of earthenware, which are undesirable for other reasons; so I would suggest to those who are fitting up a dark-room that they should try a wooden sink, unlined, as I have done. Mine consists of a shallow box of deal, made by the local carpenter, with its sides neatly dovetailed and screwed. All the joints were treated with thick shellac varnish before it was put together, and when complete it was given inside and out three coats of Brunswick black, letting it dry between each. I may add that all the interior angles were filled with strips of pine cut to a curve, so that there are no corners at all, nothing that cannot be wiped down and left clean in a minute. A sink made in this way has been in constant use in my dark-room for three years at least, and bids fair to last for another three without repair or alteration.—*The A. P. & P.*

### Glazing Prints

THE glazing of prints, such as postcards, stereoscopic slides, and many other varieties of developed print, as well as those made upon Solio and other gelatin printing-out papers even today very often give much trouble and anxiety, for fear of spoiling by tearing when stripping the print from the plate, particularly when the exact number only have been made. There are three ways by which prints may be given a brilliant and lasting surface. First by a film of collodion, secondly by waxing either a ferrotype or glass plate, and thirdly, by a thorough cleaning of a sheet of polished plate such as mirrors are made of and polishing with French chalk or talcum powder, or by a thoroughly cleaned glass plate without any intermediate material at all.

The collodion process is too expensive for the general class of work, and as a superficial coating of a separate film is not necessary, the waxing process will meet nearly every requirement.

The best waxing preparation I have found in practice, the one I always use for the ferrotype plates, is compounded as given here.

#### *Wax Stripping Solution*

|                          |         |
|--------------------------|---------|
| Pure paraffin wax . . .  | 160 gr. |
| Benzine or benzole . . . | 8 oz.   |

The paraffin should be cut into flakes, and added to the benzine. If neither of the above fluids cannot be readily obtained, spirit of turpentine will answer. This is applied by moistening a piece of soft rag, then rubbed all over the ferrotype plate or glass plate, then polished with a soft cloth leaving next to nothing upon the plate.

The wetted prints may be laid face down upon this surface and stroked over the back with a soft scraping squeegee and dried; with plates thus prepared the prints will never stick, without the use of wax, the plates must be well cleaned, and rubbed over with a small quantity of talcum powder and well polished, or the plates may be well cleaned, and the prints allowed to soak in formaldehyde 1 ounce, water forty ounces, for five minutes, and placed directly upon the glass plates squeezed and dried. The removal of the prints is effected by wetting the back of the prints well with water and the plate stood on end to drain; just as soon as they are surface dry wet them again, reverse the position, drain again until surface dry; the prints may then be lifted by raising one corner with a penknife, and laid back down to dry.

Prints treated this way by the use of formaldehyde will come away from the plate freely, either glass or ferrotype.

For cheap work this is a rapid and efficient way both for thin and thick paper.

In my practice, 8 x 10 and 6½ x 8½ developed prints are glazed both by the waxing and the wetted back methods.

### Castile Soap in Ferrotyping

IN the days of printing-out paper, to get the desired sheen on a glossy print, it was customary to use a hot burnisher to polish the surface of the

print. But in using the burnisher extra care had to be taken to insure a certain degree of heat, else the burnisher would not work to the desired result, the prints sticking to the roller or refusing to take the glaze.

Shortly after the introduction of developing paper, the ferrotype process supplanted the burnishing machine. But in this connection it frequently happens that the prints stick to the plates, entailing much wastage and annoyance. This condition is more pronounced in summer, during the hot, humid days.

Many schemes have been tried to overcome this tendency. The one found most satisfactory, in our experience, is the simple plan of rubbing a piece of castile soap on a dry cloth, then going over the ferrotype plate with this preparation. It seems to have a potency all its own, and whenever this process is used there is no difficulty in removing the prints from the ferrotype plates.

For commercial houses and amateur finishers, the castile soap has many advantages over the old beeswax formula, inasmuch as this process permits forced drying. There is no likelihood of the prints showing iridescence or rainbow effects, even when insufficiently polished.

Our experience is that no undesirable results are apparent from an excess amount of soap deposited on the print.

Under extremely dry conditions, with normal temperature, very little, if any, coating of any description is necessary for perfect results, provided the plates are thoroughly cleaned before ferrotyping.

This little hint is published in answer to a query recently received from one of our readers residing in Florida, and incidentally to be a guide to any of our friends who may happen to be confronted with prints sticking to ferrotype plates.—  
*Portrait.*

### Some Simple Copying Hints

OWING to the war and its losses, and the number of men and women who have now permanently put aside their uniforms, there is an immense field in copying and enlarging for the photographer to work upon; and in order to get such work through as well and expeditiously as possible, many photographers might overhaul their working methods for copying with advantage, and bring them well up to date. This would ensure better copies being turned out more quickly than before.

For one thing, the copying easel or board might be made a permanent and ever-ready fixture. A little thought given to its even illumination by artificial light would ensure that many a slack half-hour in the dark evenings would be turned to good account, and copies would not need to be kept hanging about indefinitely, waiting for a spare hour and good daylight.

The work turned out by the trade houses and by photo-engravers is really wonderful. Photographers might well take a leaf out of their books, for it is only careful thought and planning that has brought their methods up to so high a pitch of perfection. A few suggestions, therefore, may not come amiss.

Often a print is brought in for copying, and some explanatory text matter is desired to be added to it. The usual way seems to be to copy, make a rough print, add the required wording, and copy again. Usually, something of the quality is lost in each fresh negative made. Usually the print is too precious to be worked upon or tampered with. Another method might be tried, however. Get a few sheets of the very *best* and most transparent tracing-paper or linen, mark round the edge of the print, and cut out of the sheet. Fasten on to a drawing-board, and carefully and smoothly paint all the framework of the tracing paper with that kind of opaque white paint known as "process white," as used by photo-engravers. There is a special brand made by Windsor and Newtons, which, in my experience, seems to photograph a purer and cleaner white than any other—always a difficulty when a new negative has to be made. When this white mask is perfectly dry, add the necessary wording in "process black." When dry, carefully adjust the mask over the print to be copied, cover with a piece of perfectly clean glass, bind together with passe-partout binding, and proceed to copy in the usual way. I take it for granted, of course, that a slow or else a "process" plate is used for making the fresh negative, as they give so little grain, yield so much better results, and in case of any slight error in the exposure respond so much better to treatment during development than do faster plates.

One thing I think photographers often fail to realize, and that is the amount of time that could be saved in the finishing department if only a little more were expended on making and preparing the copy negative. How often does it happen that something like the following takes place?

The printer or operator takes a negative to the retoucher: "Oh, Miss So and so, just spot this copy-neg., will you, and let me have it in a few minutes, soon as ever you can, will you?"—failing to realize that perhaps one hour of that retoucher's time spent on that one negative would save as much time spent on each one of perhaps six dozen prints in the spotting room. It is such simple logic, yet heaps of photographers don't seem to realize it. It repeatedly happens that an enlargement is first ordered, and then, perhaps, later, a few dozen contact prints; and think of the working up that might be saved if only that copy-negative had not been so rushed. Then, again, there are one or two little preparations on the market that both save time and give better results. One of these is the deep red matt varnish, which, if spread over parts that refuse to print properly white are carefully scraped away from the back of the negative to the required outline, gives far better results in a few minutes than the slow and laborious dabbing on and working down with the finger of red paint, as practiced by scores of photographers. Also it enlarges infinitely better. Then such things as Billdup makes it far easier to lighten a part that prints too dark, with stumping-chalk, and so on; while, after much labor expended on a copy-negative from which many prints have to be made, many photographers, omit the perhaps rather bothersome process of hot varnishing, but

which well repays the little extra trouble in the protection from scratches and accidental damage it affords a much valued negative.

I saw a little dodge in use some time ago which struck me as being very clever. We all know the great risk there is in copying delicate platinotype and carbon prints, from which, perhaps, one figure has to be taken out of a group and part of a figure worked in. Well, the method I saw was as follows: A number of carbon prints needed this treatment, and each one was covered with a piece of the *finest* quality clear celluloid lightly fastened to it with gummed strips. The blocking out was then done on the celluloid cover with very smoothly mixed *oil-color* and *finest* sable brushes, so that practically no brush strokes showed. Backgrounds were added and covered up; legs added and hands blocked out in this way in comfort, and with no risk to the prints. They were then put up and copied in the usual way on non-screen plates, and I was very surprised at the excellent results obtained. Then, once the negatives were made and passed, the celluloid was very gently washed with best turps and cotton-wool and was ready for use again, so long as no scratches showed. There is also a special kind of transparent paper made for the use of photo-engravers, and called, I believe, "frisket" paper, which would probably serve the same purpose.

Where cloudy effects, etc., are wanted in backgrounds and no air-brush is available, a quick method is to use a stiff tooth-brush dipped in the required color and held bristles down over the part of the print to be covered. The bristles are then scratched toward the user with a match or brush handle, which makes them shoot out a fine spray of color in tiny spots. A little preliminary practice should be tried to get the knack of the thing, but it is really very often quite a quick way to cover a large space. Water-color, of course, should be used, made up in bulk ready for use in a saucer.

Where wording of a small size has to be put in or under a print, and is done by the finisher, it could often be better done with black waterproof drawing-ink and a pen which is fairly thick and does not smear, than by the water-color and brush method usually employed. There are also little handbooks of the letters of the alphabet in all styles of type, which are sometimes a most useful guide to the perplexed finisher, who must put dates, titles, etc., on albums of finished copies and mounts and outside covers, and all these details help to make copying both more paying, satisfactory, and easily accomplished. In the absence of an enlarger, a pantograph is a useful little tool, used, of course, with a blunt point—say a brush handle or bit of stick in lieu of the pencil, to give the exact size to which a figure should be enlarged, reduced, or photographed, for inclusion in a group and any similar thing, or for making a mask to use in combination prints, and so forth. A few thicknesses of matt celluloid are also sometimes useful when printing on bromide paper from a poor negative, when no slow paper is at hand, and will avoid intensification when this is not possible. It is so free from grain that it is better than matt varnishing or the use of tissue paper.—G. E. H. G., in *B. J.*

### Photographing Glass, China and Silverware

BEFORE you take up any branch of commercial photography you should collect all the manufacturers' catalogues you can lay your hands on. They will give you an indication of the enormous number of photographs required and, at the same time, show the quality of work that will be expected from you.

Look, for example, at some of the catalogues of glass, china and silverware. You will see that the standard is very high, but that there is plenty of work for the expert. It is difficult work, and to do it successfully you must have considerable practice. There are many little dodges of lighting that you can only pick up by actually doing the work. The subject is rarely dealt with in text-books or magazines.

The main difficulty in photographing any object with a highly polished surface is to avoid unnecessary reflections. Photographers are sometimes advised to dull the surface by dabbing it with putty or some other oily substance, and, after the photograph has been taken, to clean it again with petrol and a soft brush. All this advice about dulling such highly burnished articles as silverware should be taken with reserve. There are, no doubt, instances when expedients of this kind may be resorted to; but they should never be tried without the full knowledge and consent of the customer. The most brightly polished articles are, of course, the most difficult to deal with, and they are just the ones that will not stand the rough treatment recommended. Polished silver, for instance, has a most delicate surface, and even the slightest scratch will call for a considerable amount of repolishing.

Apart from the risk of doing serious damage, the practice of dulling the surface takes away from these articles what is probably their greatest attraction; in fact, they cease to be polished articles at all. A beautiful piece of cut glass, for example, attracts attention by the way the light is reflected from the different facets or cuttings. A common method of "preparing" cut glass for photographing is to spray it all over, by means of the air-brush, with a mixture of deep blue or pale yellow analine dye, gum and water. This makes the taking of the photograph a very simple matter, but the result cannot show the transparency of the glass or the sparkle of the facets. In fact, the photograph will convey an impression of an article made of some smooth chinaware, faintly translucent but no longer transparent.

A manufacturer wants a transparent article to look transparent, a polished article to look polished, in the photograph. He cannot get what he wants if the photographer deliberately makes the bright surface dull and lifeless. It is chiefly by the way an object reflects the light that the nature of its surface is indicated.

Some means must be found, then, of reducing the reflections without altering the reflecting surface. Reflected light must be cut down as far as possible by using a yellow light-filter; and, of course, with the filter a panchromatic or orthochromatic plate must be used. Then, reflections of surrounding objects must be prevented by screening the article with calico,

tissue-paper or fine muslin. This is best done by making a tunnel of white calico, similar to the one recommended last month for photographing polished furniture. The object to be photographed should stand inside the tunnel, so that all the light that reaches it will be diffused.

It is impossible to lay down a general rule which will apply to all polished articles. The beauty of some is best brought out by reflected light, whereas the essential beauty of others can only be shown by transmitted light. In these cases, where the transparency of the article must be emphasized, it is often a good plan to have the tunnel run toward a window, from which it would be separated by a piece of ground glass or tracing-paper that would serve as a background. This arrangement brings out all the sparkling transparency of the object.

Cut glass should be treated in a slightly different way. The same background may be used, but something more is wanted to show up the facets to the best advantage. A very good plan is to get a wooden box about a foot deep; take off the lid and knock out the bottom, and then line the inside with black velvet or any other smooth black or red material. Stand this on its side in front of the background, and place the cut glass object inside. Some of the facets will reflect the dark material, others will reflect the white light, with the result that the cuttings will show up clear and sharp.

Glass articles with very fine engraved work may be "prepared," quite legitimately, by rubbing into the engraved lines a little powder, such as rouge or the black powder used by jewelers, and afterward wiping and polishing the plain surfaces. This does not destroy the transparency of the glass, it simply makes the engraving stand out better—a point of the greatest importance in catalogue work.

Another difficult object, one that requires the greatest care in lighting, is a piece of painted china with a glazed oval surface—for instance, a cup and saucer or a rose bowl. In these cases, of course, there is no question of transparency. The calico tunnel may be used with a light or dark background according to the color of the china. The difficulty is to prevent the high-light from coming on an important part of the decoration. A top light is usually the best, but sometimes a side light is necessary. The drawing or perspective can be greatly helped by letting a streak of light fall on the rim of the bowl; this also helps to give life and sparkle to the photograph.

In catalogue work there are certain recognized positions for pieces of china; and much time will be saved by making yourself familiar beforehand with what the manufacturers want to show. For example, a cup and saucer must show the back as well as the front edge at the top. This means that they must be tilted a little toward the camera, or the camera placed so that it looks down on them. When you tilt the camera, don't forget the swing back.

Perhaps the most difficult objects of all are pieces of burnished silverware. Their surfaces are like so many mirrors, reflecting windows, furniture, camera—in fact everything within range. You cannot do better than stick to the

calico tunnel. This will do away with the patchy appearance but will not rob the article of its brilliance. There can be no objection, of course, to dusting a little black or red powder into the lines of finely engraved parts, as already suggested in the case of engraved glass.

Probably the best way to photograph such articles as knives, forks and spoons, is to lay them on a flat board, covered with velvet, paper or cardboard. The color can be varied so as to give any desired background. The camera must be fixed in a vertical position so that it looks down upon the cutlery. With this arrangement you will need to diffuse all the light which falls on the objects; and, furthermore, the light should come from a very low point so that it strikes them on their sides. The great advantage of this method is that it enables you to make quite a number of negatives without the delay caused by fixing the objects to a wall or upright screen.

The great merit of photography is that it gives a realistic and convincing representation of the goods advertised. If a manufacturer cannot show his customers the actual silverware or glassware, the next best thing is to show them photographs of it. And so photographs are rapidly replacing the line and wash drawings that used to hold the field in all illustrated advertising. Until recently the artist had it all his own way, especially in the domain of showcards—but much better showcards are now being produced by coöperation between the artist and the photographer. A good example of this is to be seen in a recent series of cards advertising silver knives, forks and spoons. The artist designed the wording and decorative scheme, but left blank the spaces in which the goods themselves were to be shown. The cards were then laid flat and the knives, forks and spoons placed in position on them. By very careful attention to lighting, the professional was then able to obtain some very striking photographic cards on which the silverware appeared to stand out in bold relief.—*Professional Photographer.*

### Guide Negatives and Prints

THE best and quickest method of judging a thing, and arriving at a conclusion regarding that particular thing, is by comparing it with something else.

Whether the subject be a railway train, a tube of pigment, or a photographic negative this holds good. Comparison with other trains, tubes, or negatives, as the case might be, would prove the most satisfactory way of judging the subject's worth, for merits and faults are more noticeable—and *more quickly* noticed—when seen relatively.

It is with abstract properties or qualities, though, that comparison plays the bigger part; the *speed* of a train, the *brilliance* of a pigment, the *density* of a negative are comparative, and without comparison they cannot be truly judged unless scientific operations and calculations be resorted to.

The busy practitioner has no time for physics, but he has time for comparison if he cares to provide himself with a standard to compare by. Take the case of negative development. It is usually assumed that the time and temperature

tank system is safer and more productive of good results than any other, where quantities are concerned, and it is, when practised with scrupulous attention and on correctly exposed plates. But, alas! as most printers know, the scrupulous attention and the correct exposures are often absent.

I once saw a tank-room which had a set of negatives (let into a window) which could be illuminated at will. They were, in the proprietor's estimation, perfect negatives.

Anyway, they were the kind he paid wages for, and the developing operative was expected to keep up the standard, whether he relied on time and tank or not.

Having those negatives in front of him *permanently* he could never go far off the track; consequently, "barged-ups" and "shadowgraphs" were't known in that firm.

To come to what I call a "guide print." I found some years ago that the presence of a really good print in the developing room enabled one to work away all day in confidence that when seen in daylight the prints would not show a percentage of "too lights" and "too darks." Since then I have put this to a very decisive test.

Noticing that the output of the developing room—some two to three thousand prints per day—was showing a relatively large number of prints which were not of an ideal depth, I distributed guides among the operatives, with instructions to gauge each print as nearly as possible by the guide. *Immediately all waste on the score of too light or dark ceased.* I thought this was proof enough, but a few weeks later it was strengthened considerably.

The old failing suddenly reappeared as bad as ever, and on investigating the matter I found the guide prints were "non est." As they had become familiar with them, the developing operatives thought it time to "just not bother," hence the prints of mixed depths.

The guides are each composed of two prints, both admittedly good when viewed in full daylight, one representing the most usual, and the other the next most common, styles encountered.

They were placed back to back, covered with two clean glasses, bound lantern-slide fashion, and the binding varnished.

In use they are left lying handy on the bench, preferably in the full light of the yellow lamp. A turn of the eye serves to show if a developing print is *really* as dark as it should be or not.—*B. J.*

### Red-chalk Tones

UNDOUBTEDLY the "best" way to get red-chalk-tones is to use the carbon process, but this is often impossible, as is also the use of a C.C. printing-out paper. When one has to use a development paper the usual methods are either to tone with uranium or to sulphide-tone and then tone with gold. Both these methods call for chemicals not stocked by many photographers. There is a way in which first-class tones can be obtained direct, or development paper.

Gaslight paper should be used—one of the "soft" brands will suit good studio negatives. The print is very much overexposed and then developed in a highly restrained developer. As

a trial give twenty times normal exposure. The various brands of paper require very different amounts of restrainer—this must be found by trial. The print will come up "thick and muddy," but will reduce a lot in the fixing-bath. The image will consist of pure silver, as in a black-and-white print, so that permanence is assured.

This method cannot be advocated for constant use, as the latitude is very small for good results, but under the best conditions really beautiful tones may be obtained. Almost any paper may be used, but personally I have found the most satisfactory results from Noctona.—*B. J.*

### Two Fixing-baths

A VERY large number of photographers still work with only one fixing-bath, and I wish to point out to them in this note what a great advantage is to be obtained by the use of two baths for each batch of plates or prints. The great advantage is that it gives a guarantee of complete fixation; but this is not all: it gives cleaner results and, strange though it may sound, it saves chemicals. My own method is, in the case of prints, to give twelve minutes in the first bath and six in the second; after each batch of prints the first bath is discarded, and the original second bath becomes the first. In the case of plates I leave them in the first bath until all the "whiteness" has gone, and the same time, plus five minutes, in the second. When the time in the first bath exceeds ten minutes this is discarded, and the second takes its place. The fixing under these conditions is really complete, and therefore the washing may be cut down, because it is a proved fact that a well-fixed negative needs less washing than a partially fixed one.—*B. J.*

### Local Bleaching and Dyeing in Two-color Photography

Two negatives are obtained, one of which is a record of the reds, the other of the greens and blues of the object photographed. From the negative of the reds a positive is printed on blue carbon tissue, and is transferred in water containing 20 per cent. of glycerin, or in water made slightly acid, to a sheet of celluloid, glass or other similar transparent support that preferably has been previously coated with a dammar or other resinous varnish to hold the transferred image firmly during development. As the blue carbon tissue, known commercially as trichrome blue, prints with considerable rapidity and with more contrast than is desirable, this is controlled by the addition to the sensitizing bath of a suitable dye or a non-actinic color. For this purpose naphthol B-green with amaranth is very satisfactory, if used in the proportion of 5 to 10 grains of naphthol B and 5 to 7 grains of amaranth to 24 grains of ammonium bichromate and 1 fluid-ounce of water containing about 20 drops of ammonia to prevent precipitation of the dye. The dye may, of course, with the bichromate be added to the emulsion before spreading upon the paper.

From the negative of the greens and blues a positive is printed on red carbon tissue and transferred to a paper support. Both red and blue positives are now developed in warm water in

the usual manner. The red positive is then placed face up in a tray of cold water, after which the blue one may, without injury to the delicate gelatin images, be placed in register upon it (the red image) for examination, when that image which appears too dark may be removed and subjected to further development until the two images are of equal strength or density. In practice it is preferred at this stage of the procedure to develop the blue image somewhat further than the red image, as will be later explained. The blue image is now to be treated with a strong solution of alum for about five minutes and, after washing approximately forty-five seconds in cold water, it is dyed in a yellow dye—preferably in a bath of alizarine yellow in the proportion of 1 or 2 grains of the dye to each ounce of water—the strength of the dye-bath depending upon the tint or hue of green desired, a strong bath giving a yellow-green and a weak bath a bluish-green image. After immersion in the dye bath it is usually advisable to wipe the face of the image very gently with a tuft of absorbent cotton saturated with the dye solution to remove a scum of alizarine lake that forms over the thicker portions of the image which, if allowed to remain, will prevent the dye from penetrating into and sufficiently coloring those parts. When the image is turned to the shade of green desired, which will be in from two to four minutes, the film is removed from the dye-bath, rinsed in the alum solution further to fix the dye and, after washing a short time, the picture may be examined again by superimposing in register the now green image upon the red image in the tray of water, and the latter developed further by immersion in warm water, if further development is needed. This is the reason for not developing the red image too far at the beginning of the operation, for if this were done it would be impossible to obtain a satisfactory picture, because after dyeing and fixing in alum the former blue, but now green, image cannot be further developed.

In order to simplify the process by eliminating the dyeing of the blue image, one may print a red and green instead of a red and blue image, this green image to be obtained by using gelatin carrying a blue and a yellow pigment so proportioned as to yield a bright grass or emerald green. Anilin blue lake or insoluble Prussian blue with alizarine yellow lake or naphthalene yellow lake may be used.

After proceeding as above described the green image on its celluloid support may be held up to the light, or be placed face up on a sheet of white paper, and those parts of the image corresponding to the different shades of blue, lavender, purple, magenta, violet of the object photographed, if any or all of such colors were present in the original scene, brushed over with a weak acid, such as dilute muriatic acid, to decolorize the yellow dye or pigment and leave the blue intact. Now if this so prepared green-and-blue image be superimposed in register upon the red image we shall have, for example, purple in the combined picture where purple should be, for in this area the red image and the blue of the blue-and-green image will be sufficiently equal and intense to produce purple; we shall have blue

where blue should be, for here the blue area will be more intense and will overcome the corresponding red area; and we shall have magenta where magenta should be, for in this part the red will be sufficiently in excess of the blue to produce magenta. This particular operation, simple though it is, if performed upon a green image that properly balances in intensity of color and degree of contrast with the red image made to go with it, is capable of producing results that equal those obtained by the more complicated processes of three-color photography in which three separate positives are made from three negatives. But it is necessary for the worker to use judgment and some measure of artistic skill. Those parts of the subject photographed which are blue, or which contain the color blue, are noted at the time of taking the picture by observing the object or scene itself, or as imaged upon the ground glass of the camera, and from the memory of such observation, or preferably from notes made at the time of taking the picture the worker applies the acid where indicated. The strength of the acid is important. An application or two of a solution containing 4 or 5 drops of hydrochloric acid to one ounce of water will produce a greenish-blue; double or triple that strength should be used for lavender, purple and bright blue. Other dyes may be used for dyeing the blue image, for example, naphthol yellow or fast S yellow, alone or combined, but if these dyes are used a weak alkali must be employed to remove the dye, which, however, is a less satisfactory procedure than the method of decolorizing as above described.

The decolorization of the yellow dye may, if preferred, be deferred until the picture is otherwise finished, as will be hereinafter explained.

Inasmuch as there is invariably some expansion, although not always an equal expansion, in the length or the width of the red and green images, during the operations of transferring and development, it is desirable to use some sort of stretching device for the red paper print, in order to secure accurate registration, when mounting the green image upon it. It is satisfactory, having cut the pieces to be printed in the same direction from the roll of tissue, to swell the gelatin of the green tissue fully in the transfer water before transferring to the support, whereas the red tissue is not allowed to swell fully; it is transferred before the tissue is quite limp. In this way we get the green image somewhat longer or wider, as the case may be, than the red image on the paper support, rather than the reverse of this result. The purpose of this is obvious. The red paper print can be stretched to register with a slightly longer or wider green one, but the green image, on its support of glass or celluloid, cannot be stretched to register with a longer or wider paper print.

The blue-green image may also be made by printing in clear gelatin and dyeing the developed print in a dye-blue, such as methylene blue, to be followed by alizarine yellow and the yellow decolorized by a weak acid, where blue is wanted.

Transparencies or lantern slides are preferably made as follows: The red and the blue gelatin papers are sensitized as for paper pictures and transferred while in the sensitizing bath to sheets of celluloid, having a suitably prepared

surface to hold the gelatin coating firmly on the paper, which is then allowed to dry. It is well to prepare the surface of the celluloid, through grinding with an abrasive, by treatment with a solvent of the celluloid, such as alcohol, or by varnishing with a solution of caoutchouc or gutta-percha. The same end may be obtained without previous preparation of the celluloid by using an alcoholic sensitizing bath: one containing 25 per cent. of denatured alcohol will answer the purpose. The sensitized film is printed through the celluloid supports and developed as usual. After development the red print is placed face up upon a sheet of glass, and the blue one, after dyeing and fixing in an alum solution, may, for instance, be examined by placing in register over the red on the opposite side of the sheet of glass, and the alizarine decolorized where desired, as already explained. Very attractive pictures to be viewed by reflected light, as paper photographs are viewed, may be made by printing the images sufficiently thin to show properly when bound between a cover-glass and a white cardboard backing. It will be apparent that suitably prepared sheets of celluloid, thin glass, etc., can be coated with the red and blue gelatin emulsions, in which case the use of the emulsion-coated paper, as above, would be obviated. The merits of this particular method are that absolute registration is made possible with but little effort on the part of the operator, and a color photograph produced by simple manipulation, that any amateur in photography can grasp.

The hereinbefore described method may be employed to produce motion pictures in color. by first making the negatives of the reds on a red-sensitive, panchromatic film, and simultaneously the negatives of the green and blues on a green-sensitive orthochromatic film.

From the negatives of the greens and blues are made red positives and from the negatives of the reds are made green positives on gelatin-coated celluloid as already explained. The blues and all colors containing blue, as lavender, purple, magenta, are formed by brushing those parts of the green image where those colors are desired with a weak acid, as already described, and the positives are then superimposed in register and their celluloid sides are united together by passing the two films through a celluloid solvent, such as amyl acetate, followed by pressure, as by passing between rubber rollers. The film is then to be projected in the usual manner.—B. J.

### Avoiding Troubles

"SOME of the troubles which beset the photographer at the present season are due to a low temperature, although this is not always recognized as the cause. A notable instance may be found in a want of brilliancy and a disagreeable color in bromide prints. The development occupies the normal time or even longer, and yet the results have a rusty look when finished, and in some cases there is an uneven mottled appearance where there should be smooth tints. This is due to the fact that the lowness of the temperature of the developer slows its action to such an extent that underexposure is presumed. The

exposure is accordingly increased, and the image appears more readily and seems to be fairly satisfactory until after fixing, when its miserable quality becomes evident. To know the cause is to know the cure, and this may be effected in two ways: One is to maintain the developer at a summer temperature, say 65° F., and the other is to give a normal exposure and allow ample time for development. Some of the makers of bromide paper give two minutes as an average time for development at normal temperatures, but we think that few printers give so long in actual practice. We advise those who are troubled with bad tones just now to give no more than sufficient exposure and go to the full two minutes in the developer if necessary. There is always a tendency to overexpose and cut the development short, and this is the cause of most failures with sulphide toning. A correctly exposed print can be developed 'right out' without fogging or blacking in the shadows, and will tone to a rich brown if desired."—*British Journal of Photography*.

No sounder or better technical advice than this has appeared in the photographic press for many a long day. Never has it been more needed than at the present time.

A cold developer at a temperature of, say, 55° F. is an inefficient and slow developer and a very cold developer in the neighborhood of, say, 50° can scarcely be called a developer at all. No developer, whatever its purpose may be, should ever be below 60°—65° is better—and the photographer who realizes this and adopts some means of warming his solution up to this point and keeping it there has his reward in the shape of prints of good color and gradation, always provided that the developing action is carried to its completion and not interrupted half-way.

With a cold developer three things may happen: The image necessarily develops slowly and a batch of prints may be scrapped for underexposure; or, on the other hand, development may be continued and the prints may stain, or if the solution is quite fresh they may be saved, but at the expense of much valuable time. Generally, however, the slowness of development leads to the supposition that it is a case of underexposure, the time is doubled or trebled, so as to bring development within the usual limit, and the result is a batch of granular prints of a rusty greenish-black color, utterly useless for sepia toning, as the article states, but equally useless as black and white photographs.

Quite apart from too low a temperature of the developer, which after all is only a winter trouble, a besetting sin of many photographers is overexposure and interrupted development. In too many instances, where prints are not to be toned, this is done deliberately with a view to economizing time in developing a big batch of prints, but time saved at the expense of the quality of the photograph is time wasted. There is only one way of making perfect bromide prints and that way is to expose correctly and to develop to the utmost—preferably with a developer between 60° and 65°, containing the minimum quantity of potassium bromide required by the paper, usually one or two drops of a 10 per cent. solution per ounce. It is only when the development is complete, or almost complete, that the image in

bromide prints reaches its proper black color and its proper gradation, and at any stage short of this the color and gradation are inferior, hence the impossibility of getting good results by overexposure and stopping development half-way. Full development, after all, is not such a great hardship as, with an average enolhydroquinone or dolmi developer at a proper temperature, the average time for bromide paper is from one and a half to two minutes—and prints to be toned require no longer—while for gaslight papers the time is only about forty-five seconds.

The golden rule in the working of any development paper may be profitably committed to memory and it is:

Get the exposure right, watch the clock and the thermometer and the prints will look after themselves.—*Professional Photographer*.

### How to Make a Really Good Developing Dish

THIS dish can be made to take two, four, six, eight or even twelve half-plates if necessary. We have had one in use for years, which will hold six half-plates, and find it a very useful and convenient size for the development of a large batch of plates quickly. There is no fear of them slipping about or injuring each other during development, and very little developer is needed to flow evenly over the lot. The following is what is required for the size to hold six half-plates: Procure from the tinman or ironmonger a sheet of metal known as galvanized sheet of medium thickness. This should be chosen perfectly flat, like a sheet of glass, and such a piece can easily be obtained; it should be squared up on the edge to 20½ inches long by 10½ inches wide. Lay on the sheet six half-plates, placing them in such a position that there is an even space in between each plate. Then make ten marks on the sheet, as in the diagram, and drill holes through the sheet to receive copper rivets about one-eighth of an inch diameter and three-quarters of an inch long. The greasy substance is used to prevent sticking. Thus, it is easy to see how important it is to have our surfaces clean and free from grease. But, further, glue holds two pieces of wood together because the wood absorbs the glue, and we have, as it were, myriads of tiny tendrils penetrating each piece of wood and knitting them together. If the glue is too thick the wood cannot absorb it. If the wood is cold it chills the glue to a jelly, and absorption by the pores cannot take place. If the glue itself is too cool the same thing occurs. If the surfaces of the wood are not cleaned, but are covered with old glue, absorption by the pores obviously cannot take place. If the surfaces are not touching all over, it is clear that the parts which do not touch will play no important part in the holding together. I have found from actual experimental tests that the best glued joints have been those the surfaces of which were freshly planed, heated too hot to touch in front of a good gas fire, glued with almost boiling glue, the two pieces being gently pressed or rubbed together for two or three seconds after being brought into contact, and then left absolutely for at least twenty-four hours, and if the weather were damp for forty-eight hours.

*Preparing Surfaces*

To clean old surfaces is not always easy, but if small, much may be done with a penknife and patient scraping. If the surface is flat, a finishing touch may be put on it by means of glass paper, not too smooth, the sheet of glass paper being laid on a sheet of plate-glass or pinned to a drawing board, and the wood rubbed over it, taking care to keep the piece of wood held quite firmly, so as to produce a dead flat surface. Slightly rougher glass paper is advisable, because a roughened surface holds the glue better; indeed, in some cases it is an advantage to scratch a surface to be glued, using the point of an awl or of a sharp penknife. This is particularly the case with the harder and less porous woods, such as oak, teak, walnut and mahogany.

When gluing end grain, such work, for example, as the corners of picture frames, it will be found that the wood is very porous and the glue appears to have no sticking power. Rather than use the glue thicker, the end grain surfaces should be sized, *i. e.*, given a coating of *very thin glue*, which is left to sink in and to dry. This stops the excessive absorption due to great porosity, and helps materially in making a good glued joint.

*When to Glue*

I must refer briefly to other work than the gluing of wood, for the sundry odd repairs the photographer will want to do bring cloth, velvet, and leather into consideration. A broad rule is that glue should *not* be used if flexibility is required. A bookbinder, for example, pastes the leather on to the back of the book, because glue would lead to cracking. On the other hand, he *glues* the cloth on the sides because the glue moistens the cloth to a minimum degree. Paste would leave it damp for a long time, and so would spoil the impressed grain or pattern of the cloth. Consequently we should apply tiny patches of leather to the bellows with paste, and if cloth bellows we should still use paste because flexibility is more important there than appearance. Besides which, the cloth used for bellows has nothing in the way of pattern except the woven twill. We should use glue, however, for such

work as fastening down edges of leather coming away from the body of a hand camera, or for repairing a lens cap, though both these jobs might be accomplished satisfactorily with Seccotine or some other form of fish-glue. I believe fish-glue, as used by the process worker, if applied hot, and if the metal surface is slightly roughened and heated also, is one of the best adhesives to employ for sticking leather or cloth to metal.

Lastly, I come to the exception to prove the rule. When sticking down velvet strips the glue should be applied to the broad groove in which the velvet will lie, cleanly and evenly, and then allowed to set slightly. The velvet may then be laid down and pressed firmly without any risk of glue coming through the back and into the pile. The glue must not be too thin either, and one or two experiments may be needed to arrive at the proper conditions. It is important to keep the pile free from glue, or the light-excluding property will be impaired.—ADAM CHEYNE, in *B. J.*

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*Dark Studios*

THIS is the season when those of us who work in daylight studios have to make the best use we can of what little light is left to us. One of the most frequent causes of excessive darkness in a studio is "dirt." I remember a case in which a studio man made test exposures before and after a thorough "clean-out" of his studio. The meter time, outdoors, was the same in each case, and yet an exposure of six seconds after the clean was found to give the same result as one of ten seconds before! The glass must be well cleaned, not leaving this to the rain, as is so often done. The light blinds must be taken down and washed (it is always best to have two sets so that this may be done). The walls should be cleaned, and if distempered, given another coat. The reflectors and head-screens should also be thoroughly cleaned. All this will not only reduce the exposure needed, but it will give a much better appearance to the studio. Too many studios look absolutely unfit to bring a white dress into, and things like that count with the sitters.—*B. J.*



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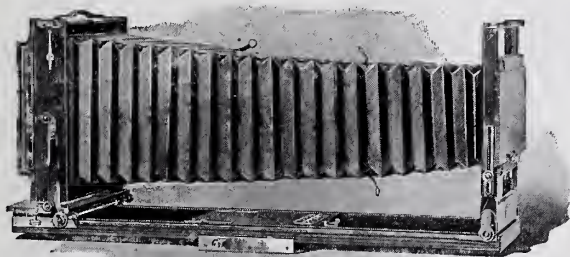
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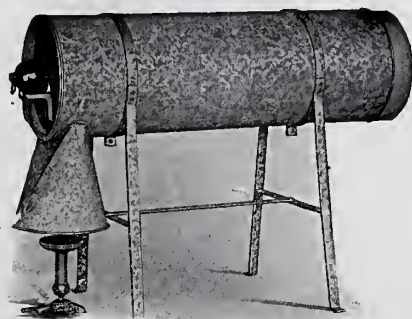
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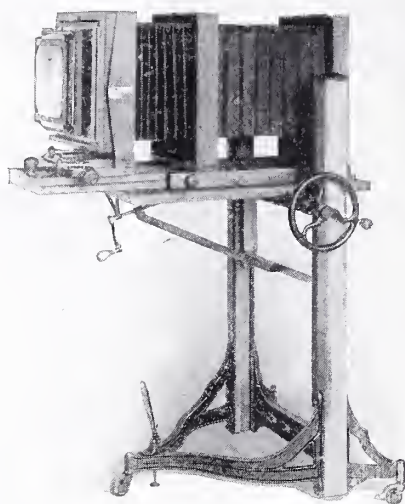
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